

THE Modern Husbandman,

For the Month of *March*,

Containing the following Particulars, *Viz.*

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| <p>I. An ACCOUNT of sowing WHEAT-SEED in MARCH.</p> <p>II. How to improve late-sown Crops of WHEAT.</p> <p>III. Several necessary Ways to prepare, sow, and improve, different Sorts of BARLEY.</p> <p>IV. Of Sowing OATS, PEASE, THETCHES, and TILLS different Ways in MARCH.</p> <p>V. Of Sowing ARTIFICIAL GRASS-SEEDS in different Manners.</p> <p>VI. A Description of an excellent new-invented SWING-PLOUGH, now in Use for plowing dry Soils.</p> <p>VII. The Benefit of ROLLING CORN and GRASS-GROUNDS in this MONTH.</p> <p>VIII. The COPY of a LETTER for sending AYLESBURY PIRKY WHEAT-SEED to a Gentleman, with the Author's ANSWER to the same.</p> | <p>IX. The late Sir JOHN DALRYMPLE's Character, and the COPY of his first LETTER to the Author.</p> <p>X. COPY of a LETTER from a very learned Gentleman, with the Author's ANSWER.</p> <p>XI. An ACCOUNT of a new-invented, cheap, small Tool, that prepares the finest and most profitable WHEAT-SEED, that can be sown; which was invented by an unknown Gentleman, and lately sent to this Author as a Present, who now furnishes the same Sort to any Person that will buy it; being a Tool of great Profit to all Farmers and Gentlemen, who occupy Arable Land, and which will effectually supply the Use of the great ROUND WIRE WORM-SCREEN, that costs Thirty Pounds.</p> |
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To which are added,

Many other CURIOUS and SERVICEABLE MATTERS, never before published.

By WILLIAM ELLIS,

A Farmer, of *Little Gaddesden*, near *Hempstead*, in *Hertfordshire*.

L O N D O N :

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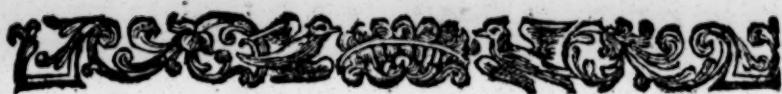
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THE
MODERN HUSBANDMAN,
For the Month of *March*.

CHAP. I.

Of Sowing Wheat in March.



F Sowing Wheat-Seed in this Month.

— This is the last Month from *September* that Wheat-Seed can be sown in, with any Prospect of Success; for, after this, the Weather generally becomes so warm, and showery, as to run up the Wheat-

Spire into such an expeditious Growth, that it will be very apt to miss the main profitable Kerning-Part, and chiefly run into Straw; which is a Misfortune that many poor Tenants, especially, dare not run the Risque of; for, if he should sow the greatest Part of his Crop of Wheat in *April*, his Crop would consequently miss Corning, and he, perhaps, be undone. But I will suppose there is hardly any Man, of common Sense, would be guilty of such a foolish Piece of ill Husbandry, as to sow Wheat in *April*, because the Sowing of Wheat, even in *March*, is not a little, but a great Risque that he runs of obtaining a profitable Crop, as I am going to shew.

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Of Sowing Wheat in March.

Of the Hazard a Farmer is under of getting a good Crop of Wheat, when he sows it in this Month.

— It is true, that whoever sows Wheat-seed in this Month, runs a great Risque of having his Crop ripe in due Time; and, if it is not, it exposes a Farmer to several Damages: As first to the Damage of Hunters, Shooters, and Setters, who commonly are so very eager after Game, that they too often send in their Dogs among the standing Corn, even that which would be fit to cut before *August* is out at latest, and thus do the Farmer a great deal of Mischiefe, by trampling down, beating out, and making the Wheat very chargeable to mow, or reap. *Secondly*, There is another Capital Misfortune belonging to such late sown Wheat, and that is, it will be late in its green Ear and Stalk, in the Time when the greatest Quantities of Honey-Dews generally fall, which is in the latter Part of *June*, and the Beginning of *July*; and then such green Wheat is most liable to receive the *Stroke*, as the Farmer calls it; that is, the Honey-dews, which are of a sulphureous glutinous Nature, will then fall on the green Ears and Stalks, and so close and glew up the tender Hose of the Ear, that the unripe Wheat-kernels cannot expand themselves into a full Growth and Bigness; which is one Reason why Wheat-kernels are often seen no bigger than the Grout of an Oat. *Thirdly*, By Wheat being sown later than ordinary, it comes later into Blossom, and thereby loses much of the Sun's Heat, that is perfectly necessary to ripen the Ear, and produce a large Kernel. On these then, and several other Accounts it is, that forward sown Wheat is commonly the best Crop: Yet there are Ways and Means that may be used to help a late sown Wheat-crop, and prevent, in some Degree, the dire Effects that sometimes attend the late Sowing this Golden Grain. But, before I write of this, I shall

give



give an Account of a Law-suit occasioned by a Gentleman's hunting and shooting in a Field, and damaging the standing Corn that grew in the same.

How a Law-suit commenced by a Gentleman's hunting and shooting in a Field of standing Corn. — This Case happened in *Hertfordshire*, by a Gentleman's riding into a Field of standing Corn, and sending his Spaniels among it for putting up Partridges, in order to his shooting them flying; which occasioned a Law-suit to commence for the Damage the Farmer sustained; and the Gentleman refused to pay for the same, because he insisted on his being duly qualified according to Law to hunt and shoot: But, when this Affair was determined, at an Assize held at *Hertford*, the chief Cost fell on the Gentleman, by the Jury's bringing in a Verdict of one Shilling Damage for the Farmer, Plaintiff; so that it cost, as I was informed, fifty Pounds Charge in all to the Gentleman, and yet even the Winner was not a little Loser; however, the Dispute happened between two Persons who could well enough afford it; for the Farmer, who rented three Hundred Pounds a Year, had an Estate of his own about one Hundred a Year, and the Gentleman was Owner of one of several Hundreds.

Of Ways and Means to improve a late sown Crop of Wheat. — The Sowing of Wheat-feed, so late as in this Month, may be occasioned by several Means. *First*, It concerns a Farmer to have a forward sown, a middle sown, and a latter sown Crop of Turneps; for, if he should not have a latter Crop, as well as the two former, he may starve his Store-cattle, tho' ever so well fed before, and hinder the compleat Fattening of those Sheep, that before have been fed for the Purpose: Two Misfortunes that all prudent Farmers ought with their utmost Care to prevent. Now it often happens, that a latter sown Crop of Turneps is not eaten off by Sheep, or Cattle, till in

4 *Of Sowing Wheat in March.*

this Month ; and, altho' it is most common for *Chilturn* Farmers to sow such Turnep-ground with Barley, yet there are others who want to increase their Quantity of Wheat, that plow such Turnep-ground, and sow it with Wheat-feed about the Beginning of this Month, and get sometimes extraordinary good Crops in Return ; and, for doing this in the greatest Perfection, the Sort of Plowing, the Dung or Manure, and the Seed are to be considered, which leads me to make the following Observations.

How Turnep-ground is to be plowed, in order to get a large Crop of Wheat on the same. — The Plowing-part, in this Respect, is to be performed according to the Nature of the Soil, and the Condition it is in at this Time of Year. If the Turnep-crop was well houghed, and grew on a well dressed Piece of Ground, then there is not much Doubt, but the Turneps grew large, and with their Leaves and Stalks covered, and very much hollowed the whole Field ; and the more, as such a plentiful Crop maintained the more Sheep, or Oxen, longer than a poor thin Crop could : It is then that these Cattle, by their Dung and Stale, dress and increase the Heart and Strength of the Ground, which causes it to ferment and become the more porous. When this happens to be the Case, though such Land is for the most Part sown with Barley, it is also sometimes (but seldom) sown with Wheat or with Pease, on only one Plowing with Harrowing ; but then such Plowing should be done as shallow as possible, that the Roots of the Wheat may run into the richest Part of the Earth, which is the upper Part, just turned Bottom upwards ; for, should an unskilful Ploughman plow such Ground deep, the Farmer may very probably be deceived in his Expectation of a good Crop, because the Dung and Stale of the Sheep, Cows, or Oxen, would be *buried* as we call it, by lying so low, that the Roots of the Grain

Grain would have little or no Benefit by it, but only have Room to grow on a crude, raw, undigested Earth, that would in Course cause the Farmer a *lean* Crop instead of a *fat* one, as the usual Terms are; and notwithstanding I have made this Matter so plainly appear, that one would think none could be guilty of committing such a gross Fault, yet there are, I am sure, many such prejudicial Mistakes committed in Farming, especially by the ignorant Sort, who are Pupils in their Profession of the Art of Plowing, which certainly is the most necessary and most useful Knowledge belonging to a Farmer. The next Thing I am to observe is the Seed.

What Sort of Wheat-seed is proper to be sown in this Month on Turnep-ground. — The Wheat-seed, that is proper to be sown at this Time of the Year, is not the *Lammas* Sort, nor yet the *Cone* or *Dugdale* Sort, because these have a large long Straw and Ear, which require a Winter's Growth in a good Soil to perfect their Crops; and therefore a Wheat-seed, that produces a short Straw and Ear, is consequently the proper Sort to sow at this Time of the Year, as having but about half the Time to grow in, that the Winter sowed Wheat-seed has. Therefore, I here propose the white or red pirky Sort of Wheat-seed, to be sowed single, or both together in this Month, as that which best answers this my last Character: Accordingly, when the Ground is in right Order, and the Season favourable, there is no great Danger of having a full Crop of Wheat after sowing this Seed, as it has often happened in my own and others Practice, notwithstanding the several blighting Accidents late sown Wheat is subject to. But, above all, I recommend the famous Foreign Wheat-seed, being one of the four Sorts I mentioned in my last Monthly Book for *February*, which in light Grounds, as Sands, Chalks, Gravels,

6 *Of Sowing Wheat in March.*

Gravels, and dry Loams, should never be sown before this Month ; and then, as I have there remarked, this Sort of excellent Wheat will grow and flourish, even in poor Earth, where the *Lammas*, the *Pirky*, and *Cone* or *Dugdale* Sort would starve. A fine and most profitable Conveniency, indeed ! which ought to be coveted and sought after by all Farmers and Gentlemen with the greatest Diligence and Expedition, who occupy, or are Owners of such Soils, for the Sake of those valuable Qualities this Wheat is endowed with above all others. But this is not all, for it is not only to plow Ground well, and make Choice of a right Seed to sow in the same ; there should be likewise some extraordinary Assistance given the Ground for forwarding the Growth of such a late sown Crop.

What Dressing or Manure is proper to forward the Growth of such late sown Wheat-seed. — Altho' I have here wrote on the Feasibleness of obtaining good Crops of Wheat, by sowing the Seed in *March* ; yet this ought not to be expected, without the Aid of a proper Soil, a proper Plowing and Sowing, and a proper Dinging or Manuring ; for it is not to be supposed that a Marsh Ground, a stiff Vale Ground, or a Clay Soil, on a Hill, is capable of producing a good Crop of Wheat in due Season, when the Seed is sown so late as in *March*. No, such Success is incompatible with Reason, because these Soils and Situations, being in themselves naturally of the coldest Nature, must consequently impede the Ripeness of the Corn to a Degree of rendering it unprofitable ; and for a Farmer to lose a Wheat-Crop is the ready Way to his Ruin, especially if he be a poor Tenant ; for on the Golden Grain Crop chiefly depends the Payment of his Rent. On the Contrary, the Soil should be a Sand, or a sandy Loam, a Chalk, or a chalky Loam, a gravelly Loam, or a very dry intire Loam, to bring forward

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Of Sowing Wheat in March.

ward such a late sown Wheat-crop, after a Crop of Turneps ; and even here, not so well, without the Assistance of Dung or Manure ; for as it is a Sort of bold Adventure (a Risque at best) thus to sow Wheat-seed in this Month, it may be justly feared, if the Ground has not an extraordinary Help, that the Corn will not ripen in due Time. Therefore, besides the Dung and Urine that the Cattle left in the Turnep-ground, and after the Seed is sown, short rotten Dung should be immediately spread all over it, to the Quantity of fifteen Cart-Loads on each Acre, at least : Or twenty Bushels of Soot sown over the same by the Hand broad-cast, or three or better four Cart-Loads of Clay, or Wood-Ashes, that will contain in all about one Hundred and twenty Bushels, reckoning thirty Bushels to each Cart-Load, to be sown out of a Seed-cot broad-cast over one Acre of such new sown Wheat-seed : Or seventy Bushels of Coal-Ashes, or twelve Bushels of Peat-Ashes, if they are made from the best, black, strong Moor-peat : Or twenty (or rather less) Bushels of Oil-cake Powder, or forty or fifty Bushels of Malt-dust ; one of which powdered Manures is to be sown by the Hand out of a Seed-cot, as soon as possible after the Wheat-seed is sown, for the Rains to wash in upon the Corn, to force on such a speedy Growth, as to cause the Wheat to run into its green Ear early in *June*, the better to avoid the ruinous Consequences of a late Blooming, that, as I have observed, often proves fatal to late sown Crops of Wheat, which are not sufficiently assisted by a timely and proper Dunging or Manuring. But the Top-dressing of a powdered Manure is far more preferable on this Account to the Top-dressing of Dung ; because, in Case Rains do not fall for some Weeks after the Manure is sown, the very Dews and Mists will have such a Power over so light a Body as Powder

Powder is, that the Wheat-crop will presently receive a fertile Benefit from them ; when Dung, for Want of Rain, may lie and stop in some Degree the Sprouting of the young tender Wheat-blades, and help to canker, sicken, or burn up the infant growing Grain. In short, where a Field of Wheat is so late sown as in this Month, it is absolutely necessary to make Use of the best Method possible to forward the Growth of such a Crop, that the Wheat may go on and flourish with all Expedition, that the Farmer may have it to reap as soon as he has cut the more forward sown, and thereby have his Wheat into the Barn before the long Nights are far advanced, and the Rains fall in so great a Degree, that it will be very difficult to dry it after such Wetting.

How to sow Wheat in March, that Field-fowls shall not devour it.—This is a very material Article, because, at this Time of the Year, the Field-fowls are more than ordinary voracious, after any new sown Grain, as being in a starving Condition, by the Length of the past Winter Weather, and the Scarcity of Food at present ; which so whets their Appetites after any new sown Corn at this Time of the Year, that they will not only employ their utmost Labour to come at it, but will also hazard their Lives in Quest of it. And, indeed, it has too often happened, that the ignorant and careless Husbandman has lost half, or a fourth Part, or a sixth or eighth Part of his Seed by the Rooks, the Magpies, the Daws, the Jays, and small Birds, for Want of covering his Seed according to Art : Which to prevent, one Way is, if the Ground is a Loam, the Wheat-feed may be sown in Two-bout Lands, out of a Man's Hand, without Harrowing afterwards, which covers and secures it well from the Beaks and Claws of Birds. A second Way is to sow the Wheat-feed broad-cast, over all the

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the Land, as soon as it harrowed first fine, and then to plow it in, which is called *Sowing under Thorough*. A third Way is to plow the Ground whether it is a Sand, a Chalk, a Gravel, or other light Earth, with a very narrow Plough that makes very narrow Thorowhs; which when finished, as the Plough leaves it, the Wheat-feed should be sowed on such rough Ground, Broad-cast out of a Man's Hand; and thus it will fall into the many Furrows, and lie sufficiently covered by the Earth that the Harrows will pull down on it, if they are employed with good Judgment. Thus the Wheat-feed will be almost all secured from the Fowls, though the Field is situated at a considerable Distance from the House; but remember to sow less Seed on rich Ground than on poor Ground; for the Wheat on rich Ground will gather and branch, when it will not on poor Ground.

C H A P. II.

Of Barley-Crops.

THE Nature of Barley-Corn, as it relates to its Growth in the Earth.— This is a more difficult Grain to get plentiful Crops of than Wheat, because of its disagreeing with several Soils and Situations where Wheat will thrive; insomuch that it is an usual Saying, That the Land, which is proper for a Wheat-crop, is not so proper for a Barley-crop; hence it is that most of the *Suffolk* and *Norfolk* Farmers, in particular, who occupy sandy Grounds, are obliged to this Grain for the greatest Part of their Profit; and where they have not Vent enough for it, for Malt-making, they put it

to the Uses of Feeding Turkeys, Geese, Hogs, &c. which enables them to pay their Landlords; and it is in these two Counties beyond all others in *England*, that some fine Improvements in Husbandry may be seen, to the infinite Profit of both Landlords and Tenants: Which have been brought to pass within these fifty Years, ever since they learned the Way of sowing and houghing Turneps in their open, common, sandy Fields, which has not only proved a Preparative to their succeeding Crops of Barley, but such Turnep-Crops give them a vast first Profit besides, by feeding their horned Beasts with them to the Degree of Fattening; so as to fit them in a compleat Manner for a *Smithfield* Market, where Thousands of them are sold in a Year; and, by the cooling fat Dung, and fertile Urine, that their Runts, Oxen, or Cows leave behind them in the Land, they so dress and prepare their dry, husky, hungry, warm, sandy Grounds, as to cause them to return more plentiful Crops of Barley of late Years, than they had formerly; and the more by far still, for my making publickly known that most excellent Way of preparing Barley-seed with Salt-petre and Lime, which I am very sensible is made Use of by the more rational Sort in many Places to their great Advantage, as I shall by and by more at large make appear. It is true, that the sandy Soils commonly yield a thin-bodied Barley-corn, and in the reddish Sands a high-coloured Grain: Yet, where such Sands are fully dressed with Dung or Manure, the Barley-kernel may be improved beyond the Size of those that grow in poorer Grounds. Thus in the sandy Loams about *Fulham*, by the Help of the *London* Dung-hill, they often get excellent Crops of Barley; but still, their Grains seldom arrive to that Bulk, as in the more agreeable, gravelly, chalky, and intire dry Loams, which leads me to be the more particu-

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lar in writing of propagating Barley-crops in the following different Soils and Situations.

Of Sowing Barley-feed in a sandy Soil. — This Soil, in one Respect, is the most natural Soil of all others, for the Growth of Barley ; that is, for causing it to grow with the greatest Expedition ; and, therefore, a Farmer, that rents a sandy Ground, has an Opportunity beyond all others to sow his Barley-feed the latest ; for, in ten Weeks Time, in such a Soil, a Crop of Barley has been sown and got off ; for, as this Grain beyond all others, of its Size, has Roots of so tender a Nature, that they cannot penetrate into any hard, rough Earth, a Sand, whose Particles are for the most Part globular, gives the thready weak Fibres of the Barley roots an easy Opportunity to make their Entrance amongst them, and get their Living in the most expeditious Manner. On this Account it is, that a Turnep-crop, or a Rye-crop, that was sown for and fed off by Sheep or Oxen, even till *May-Day*, will, in this loose, warm, dry Earth, give the Farmer Leave to sow the same Ground with Barley. But then such a Barley-crop is not in a little Danger of being spoiled by Droughts, because this is the most burning Soil of all others, and, in dry Times, impedes the Sprouting of the Barley-feed to a great Degree, and cripples its Growth afterwards, by causing the Crop to sprout at different Times. That Barley-feed, which lies deepest in the Earth, will sprout soonest ; that, which lies next higher, will sprout next ; and that which lies highest of all, will sprout last ; by which Means there will be three Degrees of Ripeness, that must necessarily cause three Sorts of Malt made from such Barley ; and then, I am sure, there must be bad Beers and Ales made from it, because such Malt will consequently deceive the Brewer that makes his Lengths of Wort from it, as if it was all one Sort of the best of Malt ; for the Pre-

paration and Malting of such Barley in the Cistern, in the Couch, and on the Kiln, will have different Degrees of Melioration. That Barley, which was ripe, will be the first soaked enough ; that, which was three Parts ripe, next ; and that, which was half ripe at Harvest, when cut down, will be the last soaked, and so in its Sprouting and Drying ; whereby there will be in Course many steely Malt-corns, that will not receive the hot Water or Liquor so soon as the riper and softer Corns, and then what will be the Effect ? Why, a weak, ill-tasted Beer or Ale, instead of a strong-bodied and well relished Sort, because there is not that Quantity of mellow Malt-flour in the Kernels, as there would be if it was all true made Malt from a Barley that sprouted much at one and the same Time in the Ground. Hence then it is, that Steeping of Barley-feed became so necessary, that, in some dry Summers, a full Crop of Barley is not to be expected without it, especially when the Seed is sown in a sandy Soil. But when only one or two Bushels of Barley-feed is soaked and sown on one Acre of a sandy Soil, and managed according to Art, there is no Fear of having a full Crop in Return, tho' it is sown in this hungry Soil, as most Sands are, even in the driest of Summers, provided the Land be dunged, or manured in a Husband-like Manner ; because the Liquor of Lime, that is made Use of for this Purpose, is of such a Nature, as to cause the Barley-feed to sprout all at once, and then run into so quick and large a branching Cover, as to shade their Roots, attract the Dews, and lodge and retain them afterwards. Thus, as I have formerly observed, when I travelled through the Counties of *Suffolk* and *Norfolk*, in the dry Year 1736, there was but one full Crop of Barley growing, that I heard of ; and that happened by a Gentleman's buying one of my Books of *Husbandry*, wherein I

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published the famous Nitre Receipt for steeping Barley-feed ; which he so punctually followed, that, with the Blessing of Heaven, he had such a full Crop of Barley, that People came far and near to see it, as it grew in a dry, hungry, husky sandy Soil, in one of the driest Summers, I believe, in the Memory of Man. In this sandy Soil, they often sow but one Bushel of naked Barley-feed on an Acre, two at most, if it be a compleat hungry Sand, and this little, because, in such a loose Soil, every Kernel is apt to grow ; and because, as Sands for the most Part are of the poorest Sort of Earth, if a Farmer should sow three, or four, or five Bushels of Barley-feed on an Acre of such lean Earth, it would not be able to carry forward the Growth of a tolerable Crop, but, instead thereof, return him a very short Stalk, a dwindling small Ear, a few Kernels, and those of the least and leanest Sort. Thus a Farmer, through Ignorance and Covetousness, to get a great Crop of Barley, may run into the Mistake of sowing a large Quantity of Seed, as if the Crop was to grow in a good Loam, and so become a great Loser indeed, if he should sow many Acres in this Manner ; for there is a great Difference between Sowing Barley-feed in Sand, and in stiff, rough, clayey or loamy Soils ; for, as the Nature of these is in a great Degree contrary to Sands, so must the Quantity of Seed be, and the Management also, as I shall by and by shew. In the mean Time I have here to remark, that when a sandy Soil is got fine by Plowing and Harrowing, and ready for sowing the Seed, it may be sown two or three Ways : *First*, By sowing the Barley-feed Broad-cast all over the Ground, and plowing it in ; for, in this hollow, sandy Earth, the Barley-sprouts will easily insinuate themselves, and grow through it, contrary to the Sowing of Barley-feed on a rough or clotty stiff Earth, which, in such a Mode of Sowing

Sowing and Plowing, would perhaps bury a tenth, a sixth, or a third, or more Parts of it ; and therefore the usual Quantity of four or five Bushels unsteepled is often sown here as an Allowance for what may never come up, by Reason of the clotty, heavy Nature of such Clays or Loams, or what may be eaten by Birds or Vermin. Or, *Secondly*, As the Plough leaves the Sand, the Barley-feed may be sown all over the rough Ground, and only harrowed in. Or, *Thirdly*, Half the Barley-feed may be sown and plowed in, and Half sown or harrowed in upon the rough Ground. Or, *Fourthly*, Where a sandy Soil is stiff enough for the Purpose, and will give Room enough for working the Drill-plough, so that the Earth fall not so soon after the Share, as to prevent the Barley-feed from dropping out of the Hopper of it into the Drill ; then, I say, it is by far the best Way of all others, to sow Barley-feed in Drills made a Foot asunder, as I am going to shew.

How, and why it is best to sow Barley-feed in a dry, poor, lean Earth, by the Drill-plough. — This is a Matter of great Consequence to many Gentlemen and Farmers, Occupiers of a sandy, chalky, gravelly, or dry loamy Earth, because it saves much Plowing, Seed, Harrowing, Dunging, or Manuring, and other chargeable Matters, incident to the Sowing of Barley-feed in the Broad-land Way. Which to prove, I shall here only mention a few of the capital undeniable Reasons, that may satisfy any rational Person of the same: *First*, Then, when any of these Soils are duly prepared, by only good Plowings and Harrowings, so that the Sand, the Chalk, the Gravel, or a dry Loam be in a true, fine Condition, and lie level, clear of any Waterthorough ; then it is, that such Land is fit for Drilling with Barley-feed. *Secondly*, When the Soil is got thus fit, then one Bushel, or a Bushel and a half,

or

or thereabouts, of Barley-feed, is sufficient to sow one Acre of any of these Earths, by drilling the Seed either out of the Three-wheel Drill-plough, or the Pulley-drill-plough, as the Nature of the Soil is ; if it is a gravelly Earth, or one that is a little stiffish, I recommend the Three-wheel Drill-plough for this Purpose ; but if it is a Sand, Chalk, or dry fine Loam, then the Pulley-drill-plough will be very requisite ; and thus both will perform Wonders. *Thirdly*, If the Ground is a sandy Loam, a chalky Loam, a gravelly Loam, or an intire dry Loam, it will bring forward a large profitable Crop, without the Assistance of either Dung, Manure, or any Compost whatsoever ; because when the Interspaces or Intervals of Earth are houghed by the Hand *Dutch*-hough, such loose Earth, that by this Instrument is raked on the Roots of the Barley, will become a Receptacle for lodging and retaining the rich Dews (for so I call them, because it has been found on Trial, that nothing is of a more fertilising Nature to any Sort of Vegetable whatever, than Dews are, when enough of them are saved and applied to the Root) and, by the Wash of Rains, the Salts of such houghed loose Earth will be carried down to the Root of the Grain, and nourish it to that Degree, as will make it branch, and grow into large Ears and Stalks. *Fourthly*, By houghing the Ground two or three Times in a Summer with the *Dutch* Hand-hough, all Manner of Weeds are killed, and kept from growing in the Intervals, between the Rows of Barley ; so that the naked Earth, here, is kept in the truest, sweetest, and finest Condition of a Fallow. *Fifthly*, By such repeated Houghings of the Intervals, the Farmer has an Opportunity of sowing a Crop of Wheat, or other Grain, in Drills, after the Barley-crop is got off, by drilling the Seed in the last vacant Interspaces of Ground, that was kept all the preceding Summer in a fallow
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Condition, so that here is no Loss of Time, nor Ground. *Sixtly*, As there is no Occasion, for Years together, to lay any Dung or Manure on the same Ground, where either Wheat, Barley, Oats, Beans, Pease, Turneps, *Lucern*, or *St. Foyne*-seed is sown in Drills, at a Foot asunder, the Dung or Manure, made by the Farmer, may be intirely put to the Use of enriching his Meadow-grass, or Clover, or Rye-grass, or Trefoil. A new Improvement of vast Consequence, especially to all those Gentlemen and Farmers, whose Land lies remote from where auxiliary Dungs or Manures are to be bought, or where it lies at some Distance from the Farm-yard: All which, and many more good Properties, belong to this new Drill-husbandry, as I shall a little further enlarge on.

How a Crop of Wheat, Barley, Oats, Beans, Pease, Lucern and St. Foyne Grasses, &c. are delivered from the Destruction of Weeds, Fowls, &c. by the new Drill-Husbandry. — It is well known, by woeful Experience, that Weeds in some Years destroy half the Crop of Grain, as Wheat, Barley, Oats, Beans, and Pease, and also *Lucern* and *St. Foyne* Grasses, &c. to the utmost Undoing of many poor Farmers, who sow their Ground with any of those Corn or Grass-seeds in the random or promiscuous Broad-cast Way: because there are several Sorts of Weeds that grow in such a numerous Manner, as to be out of their Power to cut up and extirpate, while the Corn or artificial Grasses are under a Growth in the Field in the Broad-land Mode.

The Damage of the white and yellow Curlock to the Barley-crops. — These infect vast Quantities of Ground, both in Vale and *Chilturn* Countries; but the white Sort is the worst, and least seen. Between *Sheer* and *Darkin*, in *Surry*, in a sandy, loamy Field, there was such a Quantity of the white Curlock grew, I think, among a Crop of Barley,

Barley, that there seemed to be as much Curlock as Corn, in the Year 1738 ; for in some dry Summers (in which this capital Weed grows most predominant) the yellow Sort kills great Part of Corn-crops. In Vales, where a Farmer has a Flock of Sheep, he delivers his Bean-crop from its Power, by letting them feed among the Beans, till they cripple the Growth of this Weed, for all the Summer after ; but in his Wheat, Barley, Oat, Pea, or Thetch-crop, he cannot do it, lest the Sheep eat and spoil the Corn, at the same Time ; so that here is little else but a Submission *per* Force to the Damage of this Weed. So in *Chiltun* Countries this Weed, in some dry Summers especially, over-runs whole Fields of Wheat, Barley, Oats, Beans, Pease, Thetches, &c. sown in the promiscuous Way, to such a Degree, as to spoil half the Grain ; as it did in many Places in the Summer 1743, in the fore Part of which, a wet Time happened ; but, in the latter Part of it, a very long dry Season succeeded, that brought up the Curlock, and caused it to do great Damage. As does

The May-weed. Its Damage to Crops of Barley, &c. — This horrid, stinking, venomous, rampant Weed is another that defies the Farmer's Skill to lessen its Growth among Corn-crops, when Corn is sown in the random Manner, and this Weed has got its Growth among it ; for it is seldom that it comes so thin, as to give him Room to pull it up, but must positively submit to its Damage, and that is commonly a great deal ; for sometimes it will kill half or more of a Crop of Wheat, or Barley, &c. This ugly Weed, as it cannot be weeded out of the Corn, infects the Ground with its Seed, and will remain in Possession of it for ever, if Ways and Means are not made Use of that will destroy it ; and also come up among the succeeding Corn-crops, to their utmost Destruction, unless

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the Ground is extreamly well plowed and dunged to force on a quick rank Growth of the Grain, that it may out-run and get the Dominion of this Weed; and yet even all this Management will not sometimes do, unless the Seeds of the Corn are sown thick; for, if there is Room for the *May-weed* to grow, it seldom fails of coming up, and keeping Company with the Crop till near Harvest, as it is very apt to do, both in wet and dry Summers; and as it did in a most capital and general Manner in the Year 1743 in most Sorts of Grounds; and where a Farmer is so poor, that his Rent depends wholly on his Crop of Corn, and it is ruined by the *May-weed*, he breaks in Course, and becomes undone, and a Charge to the Parish, and all on Account of this and other Weeds; which, in Truth, is so often the Case with many weak Pocket-Farmers, especially when this or other Weeds lessen and spoil his Crop, when Grain sells cheap, for then he has but little Corn and little Money. And thus it happened to a pretty many this Year, when Wheat sold in *September* for half a Crown a Bushel, Barley thirteen Shillings a Quarter, Oats twelve Shillings, and Pease and Beans for less than two Shillings a Bushel, &c. which were the very Prices I sold all these Grains for at *Hempstead* Market, in *September* 1743. It is true, that, where a Farmer has a double Crop of Grain, though it sells cheap, he is not a Loser; because his great Quantity ballances the low Price, and makes him a Gainer; but when, as I said, a thin Crop of Grain falls to his Share in such a Year, then, if he is a poor Man, and cannot sustain the Loss, Woe must be his Case.

The Gould, or Boswell, or Wild Marigold, its Damage to Barley-crops. — This most destructive Weed is called by these several Names in different Countries, and is a third cursed Weed that infests Corn.

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Corn-crops, and defies the Farmer's Skill to destroy it. This is the capital Weed that possesses sandy Grounds, as the Curlock and *May-weed* do Clays, Loams, Chalks, and Gravels. Between *Albford* and *Lenham* in *Kent*, I saw a large Field of Barley, that grew in a sandy Soil, so full of this Gould-weed, that there seemed to be almost as much Weed as Barley, and yet there was a pretty good Crop of the Grain ; by which Appearance, I knew the Land had been sufficiently dunged, else there had been most Weed, and least Grain. On my Enquiry on the Spot, of the Nature of this Weed, the Owner told me he despaired of ever clearing the Ground of it ; for that he always had it amongst his Corn more or less, where it sometime cripples it to that Degree, as to cause half Crops. Now this Weed that grows up near as high as the Barley with its yellow Heads, and keeps Company with it to the last, draws away much of the Earth's Strength, and scatters vast Quantities of its Seed, or propagates its Increase, by the Enlargement of its Roots ; and is so prone to grow in sandy Soils, that I have seen it in many Fields as the chiefest Weed among Corn, for many Miles together. But in our Parts, where our Soils consist of Chalk, Gravel, Loam, and Clay, we are Strangers to it, and so are all Vale stiff, Earths : I shall proceed no farther in this Place in writing on Weeds ; for, if I was to give a particular Account of the several Species, I could write a *Folio* Volume of them. But, I think, what I have said of these Three is enough to shew the destructive Nature of Weeds in general, as they are Enemies to Barley and other Crops : Which leads me to the Thing intended, that is, to shew how they may be utterly destroyed.

How the famous Dutch Hand-bough and new invented most profitable Horse-break destroy all Sorts of
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Weeds, and give Corn-crops at the same Time the best of Nourishment. — Whether it be Curlock, May-weed, wild Marigold, Crow-garlick, Melilot, Cammock, wild Honey-suckle, Hog-weed, Cats-tail, Couch or Twitch-grass, or any other of the stubbornest Sorts of Weeds: These Instruments will certainly destroy them, if aptly applied, between the Drills of Corn or artificial Grasses, &c. As to the *Dutch* Hand-hough, it is to be preferred before all Instruments whatsoever, for keeping clean the Intervals or vacant Ground, between Drills of Wheat, Barley, Oats, and artificial Grasses, because here is only the Width of twelve Inches allowed from Drill to Drill, which will not permit a Horse and the Break to work between them, as being too narrow for the Purpose. Therefore this *Dutch* Hough, that is to be worked by pushing it before a Man, is most ingeniously adapted to answer the great Ends of keeping down and destroying the Growth of all Weeds, and at the same Time applies the houghed up Earth to the Roots of the Corn; which will nourish them in the most exalted Manner, as I have before observed. So the Horse-break is as well a contrived Engine to work between Drills of Pease and Beans, for killing all Manner of Weeds, and breaking up and turning the loosened Earth on their Roots, and this by the Help of the little Houghs Working before, and an earthen Iron that immediately follows them; and all this at one Draft, by Reason both the Houghs and the earthening Iron are fixed in one Beam, and drawn at one and the same Time by the Horse. Now such an earthen Iron as this is, that will perform a great deal of Work in one Day, I recommend as one of the cheapest and best contrived Instruments that ever was invented, next to the most serviceable Plough; because this will hough and clean the Interspaces, I believe, of ten, or more, Acres of drilled Pease or Beans

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Beans in one Day, ready for Men's pulling such turned loosened Earth nearer to the Bean and Pea Roots ; which Work, wanting but little Labour to perform, one Man will dispatch a great deal of it in one Day.

C H A P. III.

Of Sowing Barley in Vales.

THE Time of Sowing Barley in stiff Vale Lands. — About the 12th Day of *March* is the usual Time that Vale-Farmers begin to sow Barley, if the Weather is in their Favour ; and this Time they more strictly observe of late in *Aylesbury* Vale, than they did formerly ; because many of them have suffered very much by sowing their Barley-feed sooner, in Hopes to have their Crop ripe before their Neighbours, and get it into their Barns in a dry Season, and with a fine pale Colour. But the Consequence of too early sowing Barley-feed has often been attended with very ill Effects ; for, if Rains fall for some Time quickly after Sowing, and cold Weather happens at the same Time, the Barley-Blades will discover to the Owner the poor Condition its Roots are in by their reddish Fox-colour, which is a certain Sign of a lamentable poor Crop at Harvest. And, if a Vale-Farmer should defer the Sowing of his Barley-feed too late, then he is in Danger of suffering by a bad Crop another Way ; that is, if a long dry Season succeeds such late Sowing, then the Crop is the more likely to be attended with the foregoing Misfortunes of growing in three Degrees of Ripeness. However, notwithstanding all the Foresight and Diligence a Farmer can make Use of, dry Weather sometimes immediately follows and continues (for Farming is a Lottery like most other Things) so long as to bring the

The Crop under this Damage. Wherefore the Steeping of Barley for Sowing, even in this moist Soil and Situation, may be of very great Service for forcing it up in a little Time after Sowing, let the Weather be ever so dry ; and, by this Means, cause the Blades to shade the Roots before the Moisture in the Seed is exhausted, and thus prevent any Prejudice to the Barley-crop, if the Weather proves dry presently after Sowing for six Weeks or two Months together.

Of preparing Vale-lands for Sowing them with Barley-feed.— There are several Circumstances necessary to publish, on account of Sowing Vale-lands with Barley, that have escaped the Notice of all Authors whatsoever to this Time. The Sowing of Barley, in Vale-grounds, comes more into Practice than in former Times ; for, till within these thirty Years past, they seldom sowed any other Corn in their low, stiff Vale-Earths, than Wheat and Horse-beans. But the Vale-farmer, at last, got his Eyes opened, and saw that, by constantly sowing one Sort of Seed, his Crops of Wheat were lessened ; for the Earth, like Animals, affects Variety of Species. Hence, then, it was, that the Sowing of Barley-feed took its Increase of Sowing, and now is frequently sown, not only as a Tilth-crop, but also as a Hitch-crop. *First* then for sowing Barley-feed as a Tilth-crop : The Vale-farmer commonly makes the following Preparation : They fallow in *May* at furthest, and sometimes in *April*. The first Stirree is performed in *July*, the second Stirree in *November*, and, about the 12th of *March*, they plow the last Time, and sow their Barley-feed. But, in the Year 1740, three Plowings sufficed, and proved as good as four in some Years, because the last hard Winter's great Frost had penetrated into the Earth very deep, hollowed the Ground, and killed the Weeds so well, that even half Plowings did in many Places

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prove sufficient to bring the Ground under a fine Tilth. And, for dressing their Barley-land, they do it either with Dung, or by the Fold, or by Pigeon-dung, or by Soot. These are the usual Dressings for fertilising Barley-crops in the Vale of *Aylesbury*, which I shall take Notice of as follows: *First*, If they dress with Dung, they commonly lay it on the Land, just before they begin to fallow, and then plow it in; or lay it on just before the first or second Stirree-Time, and then plow it in; for, by such early Plowing in of the Dung, it will have Time to rot, and mix the better with the Earth, keep it hollow, and sooner cause it to become a fine Tilth. If, by the Fold, they ply it to the Ground all the Summer, and likewise after the Barley is sown, when the Weather is favourably dry, and carry on this folding Dressing, as long as this sprouting Barley will let them, to great Advantage, because the Tread of the Sheep closes the Surface on the Seed, very much prevents the Damage of Droughts, and by their Dung, Stale, and Wool, they also very much fertilise the Barley-crop. In short, Folding in Vale-grounds is reckoned the very best of Dressing, both to Corn and Grass-grounds, where they lie convenient for it. If by Pigeons-dung, I have this useful Remark to make known, that that Pigeons-dung, made Use of from a Dove-loft, is esteemed to be half as good again as that made from a Dove-court, because, in a Court, the Dung lies so near the Ground, that it draws much of its Quintessence into it; which in a Loft it is delivered from, as falling and lying on a boarded Floor; which Item may serve as a valuable Consideration to all those Farmers, who buy and fetch this Pigeon-dung at some Distance from their Houses; a Thing commonly done, to help out with that made at Home. On this Account I have known an *Aylesbury* Vale-farmer drive his Waggon above ten Miles

an End, and bring Home fifty Bushels at a Time at one Shilling each of this Dung; and, as soon as the Barley-feed is sown, a Man, with a Seed-cot full of it, strews or sows it out of his Hand to the Quantity of twenty Bushels over each Acre of Land, and then harrows it in with the Barley-feed. This Manure, for many Years past, has been esteemed the richest of all others for fertilising all Crops of Corn it is sown amongst. But I intend hereafter to prove that Pigeons-dung is not the richest of Fowls-dung, and that there is another Sort of Fowls-dung richer than this, and that will do more Service both to Field and Garden Crops than this can. If Barley-crops are dressed with Soot, I have to write, that this Manure is hardly got into Reputation as yet, for fertilising Corn-crops in Vale-grounds. I never knew but one *Aylesbury* Vale-Farmer make Use of it for increasing his Barley-crop, but by this, which I was an Eye-witness of, I am sure, either Coal or Wood-foot will answer very well, if twenty Bushels of it are sown out of a Seed-cot broadcast on one Acre of Barley, as soon as the Seed is sown and harrowed in with the Barley at the last Harrowing, because the Soot must be harrowed in but once in a Place, though the Barley must be harrowed more: Or the Soot may be sown over the Barley, when the green Blades are two Inches high. They seldom sow a Hitch-crop of Barley, but, if they do, presently after the Harvest they plow up a Wheat-stubble, let it lie all Winter, and in *March* give it one Plowing again, and harrow in the Barley, but this only where the Ground is in rich Heart.

The common Way of Sowing Barley-feed on Vale Ridge-Lands.—The Sowing of Barley-feed on Vale-ridge-lands is done after this Manner: On the rough Ground, just before they begin to plow it for the last Time of all, they sow on each Acre one Cast of
Barley

Barley to the Quantity of one third Part of four Bushels ; then they immediately with the Foot-plough plow it in, by casting the Ground down with it : Now this thin Cast of Barley-feed, so plowed in, will stand stiffer than the rest that is only harrowed in, and by this Means will not so easily suffer by dry Seasons, as if the whole Seed was only harrowed in. But there is another Conveniency in sowing this first Cast, and plowing it in ; it will prevent the Barley coming in Rows, which that Barley-crop will be sure to do, whose Seed is all sown on the rough Ground and harrowed in. When this first Cast of Barley-feed is sown and plowed in, they directly sow two Thirds more of the four Bushels of Seed all over the rough Ground as the Plough left it, and only harrow it in, by sowing it broad-cast from Thorough to Ridge, and from Ridge to Thorough, at two Throws, or a Double-cast ; then they immediately harrow the Acre Ridgeland twice or more in a Place all long-ways ; and afterwards when the Barley-sprouts are two or three Inches high, they roll it, close the Earth about the Stalks, and give the Roots a new Nourishment ; and thus the Ridgeland is compleatly sowed and finished till Weeds get up and employ the Paddle.

How a Gentleman in the Vale of Aylesbury converted a Meadow into Arable Land, and sowed it for the first Time with Barley.— A Gentleman who held a large Farm of his own in this Vale, having a Meadow that did not produce that Profit, which he thought it would do, if the Ground was employed under Crops of Corn, came to a Resolution of plowing it up. Accordingly in this Month he plowed it up with the Foot-plough, and a Fin of Iron fixed in its Share, thus : He began to plow it into a Broad-land of nine Steps wide, by first making a low Ridge and plowing on each Side of it till he extended his Plowing to the before-mention-

ed Dimensions ; and as he plowed (as we call it) *round the Ridge*, he plowed the Grass Turf down as thin as possible ; and as soon as he had turned down one Furrow with Turf, he directly with the same Plough turned a Furrow of Mould on the same as thick as he could, so that the Grass had no Chance to grow through it. When he had plowed all the Meadow up in this Manner, he harrowed in Barley-feed, which produced the biggest of Crops. Thus he not only enjoyed a Barley-crop without Loss of Time, but prepared, at the same Time, the same Ground for a Wheat-crop to be sown at *Michaelmas* following ; for the Mould was laid on the Turf so thick, that it rotted the Turf by *October* next, when the Barley-stubble was plowed up, and Wheat harrowed in. I should have said there were two Foot-ploughs employed in this Work at a Time, one followed the other ; the first turned down the Turf, and the other turned the Mould on it.

Of Sowing Sprat Barley on Vale-lands.— If the Benefit of sowing this Sort of Barley in Vale-lands was rightly known, I believe more of it would be sown than is, because this Sort of Barley agrees best with stiff Soils ; and for this Reason it is often sown in Mash-grounds, for here it will grow into a rank Straw and Ear, and yet not fall down, as having a stronger Straw than the common Sort of Barley has, will yield ten or eleven Quarters on an Acre for sowing only three on such rich Land, when four is used of the common Barley ; which is a little inferior to this for making a Pale Malt, and therefore sells best to the Distiller and Brewer, commonly for two Pence a Bushel more than that, because it will yield more Spirits, and make a longer Length of Beer or Ale than the common Sort will.

C H A P. IV.

Of Sowing Barley in Chiltun Grounds.

TH E Nature of Chiltun Lands. — *Hertfordshire* in general, most Part of *Kent*, *Essex*, *Norfolk*, *Suffolk*, *Berkshire*, *Wiltshire*, and many other Counties abounding in chalky, sandy, gravelly, and loamy Soils, are deservedly called *Chiltun* Countries, as being of a dry short Nature, and lying in dry Situations, contrary to Vale-lands, that for the most Part are of a stiffish, wettish Nature and Situation; and therefore there is various Management necessary to be used, different from those which Vale-lands require, and therefore I shall briefly touch on their several Plowings and Sowings, &c.

To sow a chalky Soil with Barley. — This short sweet dry Earth is plowed either with a Foot, or Wheel-plough, according to the Custom of the Part; but a Foot-plough is generally used here, because it will plow much shallower, than a peaked Share Two-wheel Plough, or One-wheel Plough can; and this Foot-plough is in many Places more than ordinary necessary to be used, because there commonly lies under a Chalk a Sort of Hurlock, or Chalk-Stone, which being of a harder and barrener Nature than the Chalk, the broad-shared Foot-plough will plow as shallow as a Man can wish; and therefore only plow up a chalky Surface, or upper *Stratum* of Earth, and not meddle with the next hard *Stratum* of hurlucky stony Earth; which true Operation is much in Favour of a Barley-Crop, and therefore, while they are performing the several Plowings in the Fallow-season from *April* to this Month, they always plow it very shallow in Broad-lands, and seldom ever in Two-bout Ridges.

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This Soil will bear Wheat, Rye, Oats, Pease, Thetches, or Tills, &c. but not Horse-beans; if Wheat or Barley is sown here, they make a regular Fallow for it, and change at every Fallow-Season the Seed; that is, if they sow Wheat this Time, they sow Barley next, and Oats or Pease, or Thetches, or Tills after. But, of late Years, these chalky Farmers have left off Sowing of Pease, and sow most Oats, because, in this loose dry Soil the Sun and Air have such Power as to parch and dry up the Pea-roots to the Loss of many Crops. But Wheat and Barley, if the Ground is folded, for the most Part grow into as fine rich Crops, as the fatter Earth produces; but then there must be a good Dressing of Folding and Dunging, or Sooting, or some Hundred Weight of Woollen Rags first applied, or Soot afterwards sown on the Top of the Grain, to bring this to pass; for, as this Ground is generally of a very lean Nature, it requires rather a double Dressing than a single one. Now when the Ground is got ready, they sow four Bushels of Barley on the rough Ground, and harrow it in; and afterwards, when the green Blade is got about three Inches high, they roll it, and it is done with, till Weeding-time; and then, if they are free from the Poppy, they stand a good Chance of a full Crop, which often (especially in a wet Summer) falls to their Share, provided they dress the Land well. But these Farmers and Gentlemen, who occupy such chalky Ground, are vastly wanting to their own Interest in not providing themselves with one of the Drill-ploughs: If with the Three-wheel Sort, the noble Horse-break should be bought with it; but, if the Pulley Drill-plough, a *Dutch* Hand-hough is sufficient; for in this Soil these Instruments would do Wonders, not only for giving a Farmer full Room to sow the same Land every Year, without ever making a Fallow,

Of Sowing Barley in Chiltun Grounds. 29

Fallow, but he may sow and get fine Pea-crops, with six Times the Assurance in my humble Opinion, by the Drilling Way, than he can with the old Broad-land Way of Sowing. But who will believe this, why but few of the *English*, as I have Reason to say, for I have sent away as many Drill-ploughs to *Scotland*, *Ireland*, and the *West-Indies*, as I have done to any Part of *England*. In short, it causes poor Land to yield as much Grain again in the Drill-way, as it does in the Broad-land old Way, which I calculate to be true under several Considerations too tedious to mention here. Then surely all those Farmers, Yeomen, and Gentlemen, that are capacitated to purchase the Instruments for so doing, are not a little wanting to their own Interest, if they do not satisfy themselves on this Account, by either buying or trying them, or see their Operation performed by others, though they ride many Miles for the Sight. But, before I quit writing on this chalky Soil, I have to observe, That Turnep-seed is often sown on this Earth to Profit; and when a full Crop of them happens to be eaten off with Sheep, Cows, or Oxen, then they give it only one Plowing, and sow three Bushels and a Half, or four of Barley, on the rough Ground and harrow it in; then directly clap the Fold on the same; and, if they can run it over the whole Crop, they hardly ever miss a rich Return at Harvest, because the Feet, Dung, and Stale of Sheep agree better with short Chalk, than with any Earth whatsoever, by their treading in the Seed, and plastering it, as it were, down so fast, that the Crops of Barley will stand upright, when others that go without this Benefit will fall, be laid flat, and, perhaps, half the Grain spoiled, as is often the Case, especially where the Chalk is of a dry and very short Nature; for then the Grain, without the Help of the Fold, stands loose, and the Roots of
it

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it liable to be damaged by Droughts ; for which Reason in particular, the Steeping of the Barley-feed is more than ordinary necessary to be done, before it is sown in this husky Earth, but most of all necessary when a Farmer is obliged to sow his Barley-feed late, as I am going to shew by a true and remarkable Instance.

How a Farmer, being obliged to sow his Barley late in a chalky Soil, steeped in it common Water, and thereby had a better Crop than his Neighbours. — It was but last Year 1742, that a judicious Farmer, who lives between *Tring* and *Wendover*, having had a Crop of Turneps, that grew in a chalky Soil ; to make their Meat hold out as long as he could in this scarce Time of Grass, he gave the Land only one Plowing to sow and harrow in the Barley-feed ; and being necessitated to sow this Grain so late as the latter End of this Month, he, for Fear of a dry Season succeeding his Sowing, acted wiser than his ignorant obstinate Neighbours ; for, tho' he was unacquainted with my Receipt for using Salt-petre for this Purpose, yet, of his own Notion, he steeped his own Barley-feed in fair Water two Days and two Nights before he sowed it ; and the Effect was, that he enjoyed a far better Crop than his Neighbours, who sowed their Barley the same Time in the same Soil. Now if Steeping of Barley-feed in only common Water had the profitable Effect of making it come up in an even and quick Sprouting, for its Blades to give the Barley-roots an easy Cover and Shading against Droughts ; how much more would the Crop have been improved, if the Seed had been soaked in a Salt-petre Liquor, that would not only have produced these Benefits, but also made the Barley-feed to sprout into many Branches and large Ears, to the very great Increase of its Crop, even in the driest Seasons.

Of Sowing Barley in Chiltun Grounds. 31

To sow a gravelly Soil with Barley-seed.—Gravelly and chalky Soils are very well known to be the best of all others for producing a fine white, thin-skinned Barley-corn ; and therefore, where a Farmer possesses such an Earth, he has a great deal of Reason to encourage the Growth of Barley-crops in it ; not only for the Benefits I have mentioned, but also for that excellent Quality more incident to a gravelly Earth than any other, which is, its Proneness to Kerning or Corning ; for this Soil, if it is well dressed, and the Barley-seed first steeped before Sowing, seldom or never fails of producing the largest Crops of Barley : But, when I mention Dressing of this Soil, I would be understood, I do not mean a common scanty Dressing : No, As this is one of the loosest, and most huppy Sorts of Earths, it is absolutely necessary to bestow upon it the greatest Assistance, that is, a double Dressing ; as is often done by several of those able and judicious Farmers I know, who rent much of this Soil, and accordingly receive [in Return double Crops of this Grain, when their Neighbours, who give it only a common slight Dressing, receive but half the Quantity at Harvest ; for, by such Double-dressing, the steeped Seed is so invigorated in its first Vegetation, that it presently runs into a branching Growth, and covers its Roots with such a Defence, against such Droughts, as to cause them to produce an early Crop. It is this gravelly Soil that yields us the sweetest of Turneps, and therefore is mostly sown with Turnep-seed and Barley ; for, as soon as the Turneps are eaten off, they give this Earth only one Plowing, and harrow in three Bushels and a Half of Barley-seed ; but, if the Ground is more than ordinarily poor, four Bushels is the Quantity unsteeped ; but, if steeped in a right Liquor, three Bushels will be sufficient for one Acre. Then where a Farmer has the excellent Conveniency of
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running his Fold over the Seed, as soon as sown, and can carry it forward, till the whole Field is finished, he will find it the best of Dressing for this loose, dry, gravelly Soil. But, as few Farmers have this Opportunity, we commonly, about *Gaddesden*, dress our gravelly Barley-ground, with either Dung, or *London* Coal-foot ; but, as often as we can, we do it with the Fold ; and, when we get a Crop of Barley, from off this Soil in a right Order, we seldom ever fail of finding not only a ready Market for it, but also a Shilling or two in a Quarter more than for that Barley that grows in Loams or stiff Earths : And this Trial falls to my Lot, more or less every Year, as being Owner of several Fields of Gravel, Chalk, Loam, and Clay, which leads me to give an Account of sowing Barley in loamy Earths.

To sow a Loamy Earth with Barley-feed. —

As this is a stiff Earth, in Comparison of a Sand, a Chalk, and a Gravel (and, is indeed, the stiffest of all others, except Clays) it receives a different Husbandry from them to sow Barley-feed in, for returning Crops that may answer the Farmer's Wishes. For this Purpose, therefore, there must be more Plowings performed in this Earth, than are necessary to be done in them, in order to bring it into a fine Tilth, and make it sufficiently porous to receive and nourish the fine tender Capillary Roots of the Barley ; because these Roots are of such a soft, thready Nature, that they will never thrive, unless they have a full Freedom to push them easily into the Earth ; so that though a Farmer should bestow a double and treble Dressing on this Earth, for making it return a large Crop of Barley, yet it will be to little Purpose, unless the Land is brought into a perfect porous Fineness by the Plough and Harrows. A Caution so necessary to be observed, that, by the Want of it, Thousands of Acres of Barley have fallen short of the Farmer's Expectation

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tation at Thrashing-times. In this loamy Soil we sow Wheat, Barley, Oats, Pease, Beans, artificial Grasses, Turnep and Rape-seed, &c. and after the two latter have been eaten off with Sheep, we sow Barley-seed, upon one, and sometimes two Plowings: Some commend the Plowing the Turnep-ground once, and others twice, for a Crop of Barley: If it is plowed but once after the Turneps are eaten off the Corn, they say, directly enjoys the Dung and Stale the Sheep left behind them, and the Ground is delivered from the Dangers of great Rains, that may happen between the Plowings, if the Ground is plowed twice before the Barley is sown, because such Rains are apt to *bake and cake* (as we call it) the Ground, and wash away the Sheep-dressing before the Corn is in the Earth. To which I have to remark, that one Plowing, after the Turneps are eaten off, is surely best, when Turneps have been houghed well, were a full Crop, and the Ground by those Means kept free of Weeds, and in a hollow light Condition. But where the Ground had been ill-houghed, and that before had not been brought into a fine Tilth; where Weeds abounded, and the Earth is clung and sowre; then it is certainly the best Way to give it two Plowings in Broad-lands, one cross the other. But then such two Plowings ought to be done presently one after another, that they may the better fine the Earth, and kill the Weeds, and prevent the Damage of too much Rain; for good Plowings, good Harrowings, and fair Weather, while these Operations are performing, and the Seed sowing, are the best Assurances to hope for a full Crop of Barley; and remember that, where two Plowings are bestowed upon Turnep or Rape-land, the first Plowing should be very shallow, and the last a little deeper; because, tho' the first turns the Sheep-dressing into the Earth, the last turns it up again, so that the

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Seed-barley will directly have the Benefit of it. It is an usual Saying, *That a quick Man should sow Oats, and a slow Man Barley*, by Reason Oats need not be sown quite so thick as Barley ; for Barley should be sown so thick, that a Shoemaker's Awl may but enter between the Stalks without touching them ; therefore, in any of the Chalks, Sands, Gravels, or Loams, there ought no less to be sown than four Bushels of Seed on each Acre unsteeped broad-cast. I should here have given an Account of Dressing Manures made Use of for increasing Crops of Barley in loamy Grounds, but this is too tedious for the Room I have, and therefore must hasten to give an Account,

Of sowing Barley-feed in loamy Clays, and other wet Soils. — That Ground, that best agrees with Wheat, does not with Barley ; it is for this very Reason that the *Middlesex*, stiff, loamy, clayey Soils very much discourage their Farmers from sowing Barley in them ; yet, as Art helps Nature, even these disagreeable Soils may be made to bear good Crops of Barley, as I have proved to the Wonder of those Farmers, who lived about a Gentleman's House that tried, by my Direction, my Salt-Petre Receipt, and had in Return six Quarters from off each Acre, as he himself declared to me, and this where they seldom ever before mowed above three Quarters from off one Acre. Hence it is that I have Reason to assure those Farmers, who occupy loamy, clayey Lands, that lie tolerably dry, they ought not to despair of getting good Crops of Barley from off them ; and this because, by Virtue of the Imbibition of the Grain, such cold Land may be sown the latter End of this Month, or at the Beginning of *April* ; and hope for good Success, for they may depend on it, that by the Barley-feed being soaked within-side, and loaded without-side with a Coat of Lime, no dry Weather
can

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can so close the Ground, as to stop its Growth, provided the Earth was in a fine Tilth, when the Barley-feed was sown. Here therefore, after three or three Bushels and a Half of Barley have been soaked according to my Receipt, published in my former Works, the Farmer is to sow Half of it on the rough Ground, as the Plough left it, and which I will suppose was plowed into the narrowest Furrows that he could well do ; for it is a true Saying, *The more Furrows, the more Corn.* Thus, when Half the Barley is sown, harrow the Surface once in a Place, and then sow the other half Part of the Barley-feed, and harrow it several Times long-ways and cross-ways of the Field ; and then all is finished, till Rolling and Weeding-time, which are two Operations I shall write of in a proper Month. In short, I shall conclude this Article with observing, that if a loamy, clayey Soil is sown too soon, the Rains may very likely fall in the Plowing and Sowing, and then the Work must stop for some Time ; because this Sort of Earth, above all others, will graume, clog, and furr up the Plough and Harrows, so that they cannot work ; and the Seed, that is sown in such wet Weather, will be bound in, and, perhaps, never sprout out ; but, besides these Misfortunes that attend the Sowing of Barley-feed too soon in a Clay-soil, there is another that often proves fatal to the Barley-crop ; and that is, if Barley-feed is sown soon, the cold Weather, and the Nature of the cold Clay together, will, in Course, chill, and often kill the Barley, after it is got Handful high ; and, as an Indication of this Ruin, the Barley-blades, as I have before observed, will be as red sometimes as a Fox's Tail. Thus I am the first that has discovered this Way of improving loamy, clayey Soils, by sowing them with Barley ; and how necessary such an Invention is to those Farmers, who have hitherto been afraid

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to sow such Earths with Barley-feed, will appear by the Success that will follow the Attempt; tho' I am sensible few of them will take my Word for it, notwithstanding I write from the Field of Experience, as an Occupier of such a loamy clayey Earth, and not from a Foundation of Theory collected chiefly from a Study of Books; but there are other Reasons for sowing not only a Clay-soil, but any other so late as in the Month of *April*, and I intend in that Monthly Book to give a full Account of the same.

Of Sowing Barley with one of the Drill-Ploughs.—A stiff Sand, a dry Chalk, a fine Gravel, or a dry Loam, are the properest Soils, of all others, for sowing Barley-feed in Drills; and more of these have been sown with Barley-feed in Drills this Year 1743, than ever was known before (and, which, I believe I may affirm, I have, in some Measure, been an Eye-witness of) both by Gentlemen and Farmers, because half, or less than half the usual Quantity of Seed will supply one Acre, and give the Farmer Leave, without any Dung, or Manure, to sow the Interspaces of the same Ground with Wheat or Barley, Oats, or Pease, or Thatches, or Tills, &c. the succeeding Season; which I think is an Article of great Profit (as it prevents the common Loss of letting Land lie idle every third Year) to Farmers who are possessed of such convenient Soils for Drilling Corn, especially to the weaker Sort, who are hardly able to stock a Farm with live Cattle; for this Drilling Husbandry requires no other Sort than Horses. So the Gentleman that has a Mind to save his Hedges from Damage, or keep his young Plantations of Timber, or Fruit-trees, Hop, Kitchen, or other Gardens, out of Danger of being cropped and damaged by Cattle, has here a safe Opportunity of carrying on the Business

ness of Agriculture with the greatest Pleasure and Profit.

C H A P. V.

Of Sowing Oats in March.

OF Sowing Oats in March. — Tho' I have in last Month shewn that *February* is the properest Month, of all others, to sow Oats in ; yet there are Thousands of Acres sown in *March*, especially where the Soil is of a clayey Nature, or lies in a wet Situation ; for in Case even a gravelly chalky, sandy, or loamy Soil lies very near the Springs, or is otherwise subject to suffer by Water ; such Ground, I say, is better sown with black or white Oats in *March*, or *April*, than in *February* ; for, as hardy a Grain as this is, it may be chilled and killed, where the Seed is soon too soon in Land exposed to Inundations of Waters ; for which Reason Hundreds of Farmers, in *Aylesbury* Vale, dare not sow any Oats in that Ground, that is of a clayey Nature, and lies in such low Situations as subjects the Corn to the Damage of Waters : Therefore, unless the Soil is of a dry Nature, no Sort of Oats ought to be sown in *February* ; and, if it is of the wettest Sort, then this Month affords the Farmer the safer Opportunity. And now may be sown either the black, or white, or reddish Oat, with or without any Dressing or Manure ; for an Oat will prosper where hardly any other Corn will, for which Reason, the Oat is become the Chief, and the most profitable Corn for sowing and prospering in the remotest Parts of the *North*, where some sow the reddish, others the white, and others the black Oat. But the reddish Oat, which is much sown in

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Derbyshire, gets more and more into Reputation for an extraordinary good Oat. In *Scotland* Thousands of Acres are sown with a smallish white Oat, that are not so large as those sown more to the *Southward*. The white Oat is the tenderest Sort of all others, and therefore ought not to be sown before this Month, or in *April*; and then in a Sand, in a Chalk, in a dry Loam, or in a stiffish Earth, so it lies not wet; and when it is sown in any of these Soils, and they be in good Heart, a white Oat will flourish and become a great Crop. But I do assure all those who sow this Oat, that, though all the Oat Tribe are great Peelers or Robbers of the Goodness of the Earth, yet this will do it beyond all the rest; for this Oat has not only a strong large Stalk and Ear to nourish, but also a broad Flag besides, that keeps Company with the Stalks. It is therefore that in most of our *Hertfordshire* Grounds, as well as in several other *Chiltern* Countries, they sow the black Oat, for its great Yield and less Suction of the Earth than the white Oat draws; for it is a Folly to sow a white Oat in a poor Soil. And although most Farmers in *Hertfordshire*, and elsewhere, never dress their Land directly for sowing it with Oats, there are some that wisely dress their Ground with Dung or Compost on Purpose to nourish an Oat-crop; and this they do very judiciously, because Dung, laid on to assist an Oat-crop, will take off that Rankness that would canker, or smut, and spoil a Wheat-crop in some Sort of Soils, if laid on the Ground just before the Wheat is sown; which, by this Piece of forward Husbandry, is delivered from these Mischiefs; for the Ground, being thus enriched by Dinging, will certainly produce huge Crops of Oats, and a huge Crop of Oats will certainly clear the Ground of Weeds, and leave it in a most fine hollow Tith Condition; and, indeed, it is my humble Opinion,

that

that it is the best Way of preparing Ground for a Wheat-crop, where the Soil is not a hungry Sand or Gravel, or where the Land cannot be cheaply dressed by the Fold, or otherwise manured ; when then the Ground is designed to be sown with Oats, either with or without Dressing, if it is infected with Weeds, the best Way is to give it two Plowings, to kill some, and stop the Growth of others, that they should not get the Start of the young Oat-crop, and cripple its After-growth ; and so necessary is this Piece of Management, that I know some *Chilturn* Farmers, who dare not sow some of their Fields with Oats, unless it has had two Plowings, to give the Oats Room to grow up, and cripple the Weeds. These Plowings are also most necessary to be performed, in Case a Farmer sows Clover, or Rey-grass, or Trefoil, or *St. Foyne*, or *Lucerne*-seed among his Oats ; for, though many are so silly to sow these Seeds on only one Plowing of the Ground, it often causes them to lose their Grass-crop by it ; whereas had the same Earth been plowed twice, and got thereby into a fine Tilth, such Grass seeds have three times the Chance of taking the Ground ; and, indeed, I do aver it for Truth, that an Oat-crop is the properest Corn of all others, to sow any of the Grass-seeds amongst, if the Ground is in Heart ; because the Stalks of Oats are apt to stand stiffer than Barley, and thereby the Crop of Grass is in less Danger of being spoiled. (But more of this hereafter.) When the Ground is plowed ready for Sowing of Oats, they are to be sown half on the rough Earth, as the Plough left it, and then the Harrows are to follow ; and when the Ground is harrowed once in a Place, the other half of the Seed is to be sown broad-cast like the last, and harrowed in long-ways and cross-ways of the Land, till the Seed is well covered ; but there has been a Practice carried on by some par-

particular Farmers that I have known, who think it the best Way to sow Oats by a single Throw of them over the whole Ground, as believing they can, at such a single Throw, sow Seed enough; and if a Person tells them, they cannot sow the Ground thick enough in this Manner, the Answer I remember of one was, that his Hand was a large one, and therefore could compleatly sow the Ground at one Throw or Broad-cast; but their Assurance has sometimes failed their Expectation, and found the contrary Effect, by the Oats coming up so thin, as to give the Weed Room to grow between them, to the great Damage of the Crop. For my Part, I always have my Oats that are sown in the Broad-cast Mode sown twice in a Place, and find it far the surer Way to have a full Crop, than sowing them by a single Thorough, and I have tried both Ways.

Of Sowing Oats in Drills. — This of late is become a modish Way of sowing Oats in poor Soils; such as Chalks, stiff Sands, short Gravels, and dry Loams, because the Drill, by the Assistance of the falling Earth upon the Seed, is the better able to nourish the Roots of the growing Corn, than when Oats are only sown broad-cast and harrowed in; for Reason, as well as Experience, confirms this Truth, that, the greater Cover of Earth it has, the more Nourishment it receives; and the Nourishment that a Drill gives the Seed, by the Fall of the first Earth, and that which is afterwards added to it, by the Operation of the *Dutch Hand-hough*, will, I suppose, give the Roots of the Oats a thicker Coat or Covering by three Degrees, more than they receive when sowed in the common Broad-land Way. And then they will also be better defended from the Power of too great Droughts, that oftentimes lessen the Bulk of Crops, when their Seed is sown in the usual Way. But Oats are absolutely necessary to

to be sown sometimes for Change-sake ; for though a Person may sow either Wheat or Barley-seed several Years together, in one and the same Ground by Virtue of this Drill Husbandry, without any Damage from such repeated Sowings of one and the same Species ; yet in Time a Change of Seed, even here, will be absolutely necessary to enliven and give the Earth Vigour by such Change ; for yearly Experience proves this to be undeniable, that a Change of Species will enable the Land to return the greater Crops of Corn. From whence I infer, that though the Earth, by the Drilling Husbandry, will endure to be sown with one Sort of Species successively, oftener than it will in the Broadcast or Spraining Way ; yet in Time a Change of Seed, as I said, is truly requisite to be sown for refreshing the Earth, and causing it to become more fruitful in returning the greater Crops ; and therefore Oats now and then should be the Grain that follows either Wheat or Barley.

A new Account how Wheat, Barley, or Oats may be sown with the Drill-Ploughs, without Houghing between the Drills at all. — The Pulley Drill-plough is certainly a fine Invention of *Edward King, Esq;* and so is the Drill Three-wheel Plough that was invented by a Farmer, who thought it the best Instrument in the World to increase Crops of Grain and artificial Grasses in poorish Land, and by several Years Experience he found it fully to answer his Expectation, as he declared to me himself ; and I remember he desired me to look over a Field of his fine, large, whitish *Carolina Pease*, in the Month of *July*, I think about the sixth Day of that Month, when they were almost ready to cut, and which grew in Drills made by this excellent Three-wheel Drill-plough, and the Ground broke by the Horse-break between them : This Crop, I say, he asked me, if ever I saw a more plentiful one

in my Life? I told him I thought I never did. But to come nearer my Proposal: Where a Person has a Mind to sow Wheat, Barley, Oats, or artificial Grass-seed, such as *Lucerne*, *St. Foyne*, Clover, Honey-suckle, or other Sorts, he may sow any of these Grains, or Grass-seeds, in Drills by this Three-wheel Plough at six Inches apart, and that in the greatest Perfection, by Means of the Wheels, which the Ploughman can make to straddle or close at his Pleasure, by making them stand wider or narrower on the Iron Spindle, that thus will give him an Opportunity, I say, to sow any of these Seeds at six Inches asunder in Drills; but then, when they are sowed in this close Manner, there is not a proper Room for employing any Break or Hough between the Rows or Drills, and therefore the Crop must take its Chance of Growth, which, perhaps, may turn to a very good Account, provided the Land is in a true clean Condition; for then the Grain or Grass may very likely out-grow, and get the better of all Weeds that happen to take the Land between the Drills: But if the Ground was foul at Sowing-time, and subject to be over-run with the Curlock, *May-weed*, Poppy, Wild-Marigold, or other pernicious Weeds, then it is a great Chance, if the Crop does not suffer by them. However, I know, and have seen it practised by a topping Farmer, who sowed, in the Year 1743, several Sorts of Field-seeds this Way in his inclosed Grounds, and had excellent Crops without houghing between the Drills, because he made them with the Three-wheel Drill-plough at six Inches asunder; so that either Gentlemen or Farmers are not necessitated, if they use this very profitable Drill-plough, to sow their Grain a Foot Distance in Drills. And although Grain or Grass-seeds are sown in this Manner, and never houghed, yet they stand a much better Chance of a full Crop of Wheat, Barley, Oats, or Grass-seeds,

seeds, than when they are sown in any old Way, by Reason, as I said, of the greater Cover of Earth, and the greater Quantity of Ground, that their Roots enjoy by the vacant Intervals between the Drills, which consequently yield them more Nourishment than ordinary. But for the greater Assurance of having a good Crop of Wheat, Barley, &c. the same Ground that is to be drilled and sowed in this Manner, without any after Houghings, may be dunged or manured in the usual Way that is done, when Grain or Grass-seeds are sown in the Broadland Way, for Sowing of Corn or Grass-seeds, in such narrow Drills, does not hinder a Farmer dressing his Ground with either short Horse-dung, Lime, or Compost before Sowing, nor laying on, after the Grain or Grass-seeds are sown, either Soot, Oil-cake Powder, Malt-dust, Ashes, or other Manure, for fertilising the Crop. This is an intire new Way, that no Person whatsoever has published to the World besides myself; and, as this Account of it is the very first Essay that I have wrote concerning it, I do assure all my Readers, that I write from the Field of Experience, and that there have been as good Crops got this Way of Wheat and other Corn in the Harvest of 1743, as a Farmer need to desire; but then it ought to be considered, that a Crop of Grain, sowed in Drills at six Inches asunder, does not allow any Seed to be sown in the Intervals for the next Crop, because such Sowing puts the Ground on a Par with that sown in the random Way; and therefore, in this Sort of narrow Drilled-Husbandry, *Lent*-Grain should succeed a Wheat-crop, and a Fallow, that, according to the usual Mode of Farming. Thus I have great Reason to praise this serviceable Pay-rent Three-wheel Drill-plough, for its being easily contracted into such a Narrowness of Width by its Wheels, and the Iron Spindle it turns on, that the Corn or

Grass-seeds may be sown at six Inches apart Drills ; or in Drills at two Feet Distance, or in Drills of a Foot Distance, and so in Proportion to any Distance between the two Extrems. But, besides all this, this valuable Plough lets its Seed drop out of its Hopper so very low, and near the Ground, and in so narrow a Compass, that the Earth immediately falls in upon the Seed of itself ; for it is plain, that, the narrower it drops its Seed, the narrower Drill is required to receive it ; and, the narrower the Drill is made, the sooner the Earth falls into it ; and for this Reason the Farmer Inventer says, there is no Occasion for two Irons to be fixed at the Arse or Tail of this Plough, as there is in the Pulley-plough, to gather up the Earth, and leave it in a Ridge Form on the Drill ; nor for any Harrow (if the Ground was truly fine before Sowing) to follow, to cover the Seed in the Drill, because, as I said, the Three-wheel Drill-plough makes so narrow a Drill, that the Earth always falls in of itself, and sufficiently covers the Seed in the loosest Manner possible ; which is a great Advantage to all drilled Corn and Grass-seed, by Reason the Seed by this Means is out of the Danger of being what we call *buried*, or so covered, that its infant Sprouts of the Corn cannot come thorough it ; as is the Case oftentimes of a great deal that is plowed in or sown under Thorough, to the Loss of, perhaps, half the Crop ; and when the Earth has fell in this loose Manner on the Seed, it becomes a sure Dressing to nourish the Crop ; for when the Rains have descended, and sufficiently washed the Salts out of such a loose porous Cover of Earth, the Seed and its Roots certainly are greatly fertilised by it, and defended very much against the voracious Beaks of Field-fowls, from Insects, and from the too great Power of Droughts, to the great Advantage of the Farmer.

C H A P. VI.

Of Sowing Pease.

WHY some Sorts of Pease should not be sown till this Month. — As I have in *January* and *February* wrote on sowing, in chalky and other warm dry Soils, the hardy *Windsor*, the Horn, and the Iron-grey Pea, either alone, or with Horse-beans ; I now come to shew that there are several more tender Sorts of Pease that ought not to be sown till this Month ; for if they are sown before *March*, and the frosty Weather, or chilly Wets meet their Sprouts, it is two to one odds, but they are killed, or at least so crippled, as to become a half or quarter Crop. Hence it is, that we Farmers take the Precaution to forbear sowing the Maple Pea, the Puffin Pea, the *Essex* Roothing, the *Hampshire* Kid, the Beau-dye, the Rouncival Maple, and the Rouncival-Blue, or Union-Pea, till this Month, because these are of such a tender Nature, that they cannot endure those Hardships of Weather, as the Greys can. Therefore, if the Maple and Puffin Hog-Pease, the *Hampshire*-Kid, the Beau-Dye, the Roothing, and the Rouncivals were to be sown in *January* or *February*, the Consequence would very likely be, that, after they have shewn a green Stalk, a reddish one would succeed, as a Prefage or Sign that the Crop is spoiled by Frosts or Chills of Wets, as I shall more particularly shew by what follows :

How a Crop of Pease were intirely ruined by the Indiscretion of a great Farmer. — The Farmer, that I here write of, was one who rented a large Farm, in *Hertfordshire*, that consisted of several fine inclosed Fields of various Soils and Situations ; and, be-

because he had a great deal of Ground to sow with Pease, he was tempted to begin to sow them early in *February*, in a stiff Earth that was subject to be damaged by Waters; and therefore he very judiciously sowed his Pea-seed in two Bout-lands, or what we call four Thorough Stitches, which being a Mode that laid the Pease the highest of all others from the Power of chilling Waters, he was in this Respect to be commended; but, though he was right in the Form of plowing in his Pease, he was as wrong in plowing them in while it snowed; for he must either be very ignorant, or very obstinate, that carries on his Plowing in snowy Weather, as I shall by and by more particularly observe; however, this was the very Fault of this Farmer, for while the Seedsman was sowing the Pease, by spraining them in after the Plough, the Snow fell, and continued snowing till it lay some Inches thick on the Ground. The Consequence was, that there were few or no Pease; for the Snow bred the *May-weed*, or rather gave it Room to come up by killing the Pease; and this in such Abundance, that it poisoned the Ground, insomuch that there was nothing to be seen but a few Thatches, that were sown among the Pease, and a full Crop of *May-weed*; nor was there a full Crop of Grain on the same Ground for eight or nine Years afterwards.

How many Farmers, who occupy chalky Grounds, have lost their Crops of Pease by a wrong Way of sowing them. — This fatal Misfortune has often happened, occasioned by the imprudent Management of Farmers, who the most of all People, I believe I may say, under the Sun, are bigotted to antique Customs, and so attached to them, that it is a most difficult Thing to convert them, by persuading them to leave off an old wrong Way of Plowing, Sowing, or any Thing else in Farming, for practicing a better, though it be to their own Interest; however,

however, one old rich Farmer, whom I well know to have gotten an Estate, by his long holding a very cheap Farm, and by improving it in many Branches of Husbandry, yet was short in one main Article ; and that was, by his harrowing in all his Hog-Pea-feed on the rough Ground, which though it would have been absolutely right Management, in a clayey Loam, an intire Loam, and a Gravel, yet was wrongly done here. And this Farmer, after holding a Farm above forty Years, was at last convinced, that in a short, loose, chalky Soil, as a great deal of his Ground was, he ought to have plowed his Pease in, and not only harrowed them in on his rough Earth, as the Plough left it ; however, in the Year 1742, he sowed all his Hog-pea-feed on the chalky Land, before it was plowed in the Broad-cast Way, and then plowed them in with a Foot-plough, which covered all his Seed-pease, and thereby defended them not only from the Beaks of Field-fowls, but also a worse Misfortune that oftentimes befalls Pea-crops ; and that is the Drought of long dry Summer Seasons, which generally, in this dry, husky Soil, parches the Pea-roots, if the Seed was only harrowed in. This Farmer, therefore, got wise enough to prevent, in a great Measure, this fatal Misfortune, though not till the Age of Seventy-two Years ; and by the Success that attended this better Way of sowing his Seed under Thorough, he is resolved to continue it, whilst he lives ; but, by the Way, I am to observe, that he gave his chalky Ground only one Plowing in all, and that was done at the Time of Sowing his Pea-feed ; for, if he had winter-plowed it, for this Purpose, he had been in the Wrong of it, as I am going to shew of this Work in other Soils.

How in the Vale of Aylesbury, and in the Vale of Darby, if their Farmers should give their Ground two Plowings for a Pea or Bean-crop, it would prevent

vent their having full Crops of them. — First, In the Vale of *Aylesbury* most of their Land, that always lies Ridge and Thorough, is of a bluish, loamy Clay, which, though of a stiff and very hard Nature in the Summer dry Time, yet, on a little Frost, will shoal and crumble into a short Body and Surface, and lodge the Waters to that Degree, if it is winter-plowed, as to greatly damage either Beans, Pease, or Thetches, that may be sowed in this Month, or in *February*. Wherefore they are judicious enough to sow these *Lent* grains on the Stubble of Wheat, or Barley, and then give it one Plowing and Harrowing, for compleating their Sowing. Thus also, in the Vale of *Darby*, their Farmers are very sensible, that Winter-plowings would do their Ridge-lands a great deal of Harm, because the Rains would wash away great Part of their Goodness, if plowed twice for Pease or Beans, and got into so loose and hollow a Condition, as to let the Air and Sun in that would thus dry up the Pea-roots. In the Vale of *Darby* their Earth is a reddish Clay, of a contrary Colour and Nature to that in *Aylesbury* Vale, and therefore they say, they should lose their Crop, if they plow it twice for Pease or Beans, because, likewise, the Waters would have so free an Access to, and Entrance into, as to make a Lodgment in their Ridge-lands, load them with it, and cause the Harrows to harrow their Surface into a Marsh after the Seed is sown; and the more, if it should rain in the Sowing Time, to the Loss of the Crop. Wherefore, as their Ground in *Darby* Vale is a red and stiffer Clay by far, than that in *Aylesbury* Vale, their Farmers are obliged to take a different Method to sow their Pease or Beans. In *Aylesbury* Vale, as I said, they plow their Pease and Beans in; but in *Darby* Vale, as soon as they have plowed their Land once, they sow their Pease and Beans broad-cast all over the

the rough Ground as the Plough left it, and harrow them in with one single *Drag-harrow* as they there call it : By which Mode of Sowing, the Pea and Bean-seed falls in between the Furrows, and a great deal of Mould fall in upon them at Harrowing-time, and thus becomes a Feed and great Nourishment to their Crop all the Summer after. It is in this Vale of *Darby*, that they seldom or never sow all clean Beans or Pease, but sow in general a Mixture of both ; that is, they sow one Part Beans, and two Parts Pease together ; the Pease are a large Sort of the Rouncival Kind, and serve either for feeding Hogs, or to boil alone, or with Pork or Bacon : And this they do with good Reason, for (as they say) if a dry Summer comes, the Pease may hit, and the Beans miss ; and if a wet one happens, the Pease may miss, and the Beans may hit, and thus they have two Strings to their Bow ; and, indeed, it concerns the Farmer to take the surest Way to come by a Crop of something ; for, if he is deprived of his Crop but one Year, it may, perhaps, bring him into a Bankrupt Condition ; for the Rent is certain, the Crop uncertain, and the Help of Books and all other Aids are therefore perfectly necessary for all to consult and get, and especially Tenants, that they may learn, by others Harms, to beware and prevent the like Losses. For which Reason it is, that I have taken particular Care to inform myself of many Cases of this Kind, and as carefully have communicated them to the Public, both from my own and the Experience of many others. Thus by harrowing and tearing this stiff, rough Earth, two, three, or four times after Sowing, the Surface will lie smooth and loose, ready for giving the Rains free Access to the Seed and their Roots, in order to wash down the Goodness of such Top-earth, and, by Degrees, nourish the Crop to the last.

How a Farmer lost almost his Crop of Pease by Mismanagement. — In this Month a Farmer that had been concerned in Husbandry forty Years, and had rented one particular Farm thirty Years, at sixty Pounds a Year, committed such a Mistake in the Sowing of his Pea-feed, as proved to his great Loss; his Ground was a gravelly Loam, a Close containing ten Acres: In this, after a Crop of Barley had last grown on the same, he sowed his Hog-pease all over the Stubble, Broad-cast, to the Quantity of four Bushels an Acre, and plowed them in with a pecked Share Two-wheel Plough, which when all the Close was so done, he harrowed all the Ground, and then it was finished. Now, by this wrong Method of sowing his Pease, great Part of the Seed was buried, and never could throw out a Sprout strong enough to come thorough the hard crusty Surface of this Field, which he should have considered before; for his many Years Experience was enough to inform him, that gravelly Land, contrary to a Sand or Chalk, was most subject to close and be bound in by Rains of all others, and by this Means many Crops are lost; because, if great Rains presently succeed the Sowing of any Corn-feed that lies too deep in such a gravelly Earth, it is a great Chance if it is not bound in as not to grow into any tolerable Crop. I asked him, how he came to be so mistaken in his Management of this Pea-crop? He told me for Answer, that such a famous Farmer did always the same, and got the best of Crops. This made me scrutinise into the Matter so far, as to ask the Person if the same was true? Who told me it was true, that he sowed Pease in the same Mode of giving the Ground only one Plowing in all, and that was at Sowing-time; but, with this Difference from the mistaken Farmer's Management, he made Use of a Foot-plough, with a broad Share to plow in his

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Pea-feed, which plowed his Ground as shallow as he pleased; and that by plowing his gravelly, loamy Ground so shallow, the Pease threw out their Spires with Freedom, and commonly grew into a good Crop, because the Seed was thus sheltered from the Beaks of Fowls, from too great Droughts, and at the same time nourished to a great Degree by the covered Earth, when its Salts were washed down on the Roots of the Pease by the frequent Fall of Rains. Whereas the pecked Share of the Wheel-plough will enter the Ground so deep, that it is impossible to plow it so shallow, as is requisite for obtaining a full Crop of Pease sown in the random Way; which was the very Occasion that the mistaken Farmer got about half, instead of a whole Crop of Pease. But I would be here understood, that when I mentioned a Broad-share Foot-plough, that plowed the Seed so shallow in, it was not the common Vale Foot-plough, for the Share of this is as wide again, as a *Chilturn* Foot-plough Share is, and therefore is not fit to be made Use of in a stony gravelly Ground. It is for this, and other Reasons, that the Swing-plough has, and is made Use of in common about *Bromley* and *Chizzleburst*, *Bexley*, *Welling*, and some other Places; which is a Plough almost of the same Make as a Foot-plough is, except that it is made to swing by the Hind-horse, which gives the Ploughman an Opportunity to lower or raise the Plough for going deeper or shallower by the Help of his Hands and the Geers of the Horse, and differs from the common Swing-plough used in *Middlesex*, in that this Swing-plough has two broad Boards, and a narrower Share than that has, which renders it capable of plowing in their gravelly Soils. But, to give a nearer Description of this excellent Plough, I shall add the following Account of it:

A Description of the best Sort of Swing-plough now in Use for dry Land. — This Sort of Plough I am going to write of is found to be the most convenient Plough of all others, for doing several Sorts of Work in gravelly Grounds, as well as in dry Loams and Chalks, because it has two broad Boards and a Share fitted to plow up Fallow-grounds, or plow it into Hacks or Broad-lands, &c. and this last Mode of Work it will do in a very shallow Manner ; by which the Farmer avoids the ruinous Operation of turning up the Land too deep, that in these Parts, as well as many others, would be of very dangerous Consequence ; for, if their Soil here was plowed too deep, they would turn up a raw crude Earth of a most barren Nature, that would very likely return such poor Crops, as would break the Farmers ; for this Reason they refuse any Sort of Wheel-pecked Share-ploughs, or the Wheel-turnrise Plough, that has a round or chizelly Point, as those that would plow their Land too deep. But besides the great Conveniency that belongs to this double broad Swing-plough, of plowing gravelly, chalky, and dry loamy Land very shallow, it is a Sort that lodges the least Dirt ; for the land broad Board is made straight, on Purpose to keep off the Lodgment and Clogging of Dirt in the working of it, when the Land is fugged with Wet ; but in Two-wheel Ploughs that have two Iron Mortaises in their Shares, and only one broad Board, a Load of Dirt often times so sticks to them in wet Weather, that they become heavier to a Team of Horse by twenty Pounds Weight or more than one of these Swing-ploughs gathers ; which renders it a most valuable Plough, especially to those Farmers who have only weak Teams. This Plough also is therefore so light, and works so clear of Dirt, that there is one Horse's Drought in four Difference between this and the

the Two-wheel *Hertfordshire*, or Two-wheel *Kentish* Plough, that is drawn by double Horses, notwithstanding the Swing-plough has two broad Boards, and they but one. The land broad Board, standing in a straight, and the Furrow-board in a bending Posture, performs its Work very shallow, easy, and clean, with its Horses in Length, to the great Advantage of the Farmer; which Swing-plough I furnish to any Person in Foreign Parts, or in *Great-Britain*, on a proper Order.

How a Farmer got a vast Crop of Pease by the Help of Horn-shavings. — A Clover-lay was plowed up in the *Chilturn* Country after *Michaelmas*, into Broad-lands, and let to lie all the Winter, to rot the grassy Surface that was now turned down, and also the Roots of the Clover against the Spring-Season, in order to sow the Field with Hog-pease: Accordingly in *February* the Farmer harrowed the Ground all over till it lay plain and smooth; then at the Beginning of this Month he plowed the Close across the last Plowing, and at the same Time plowed in a sufficient Parcel of Horn-shavings, which he bought in *London*, thus: Before he began to plow the Land this second and last Time, he sowed it first over all with the Shavings, and then a Man followed the Plough, and sowed or sprained in the Pea-feed, which was a Mixture of the Horn-grey and Maple Hog-pease; and when all was done, he harrowed the Ground as plain as he could, and then the Work was finished. By which Management the Seed and the Manure lay together, and thus produced such a great Crop of Pease, that the Tasker commonly thrashed a Quarter, or eight Bushels of them, in a Day; and it is no Wonder, that these Shavings are so efficacious in producing such a large Crop of Pease, for they are accounted at least three Years Dressing for any Land they are plowed into, because they are of a very tough, hot,

hot, and oily Nature, and therefore exquisitely well suit all dry, husky Lands, especially sharp Gravels, as well as cold, wet, clayey Earths ; and as they hollow the Ground very much, they are the most agreeable Manure that is for a Pea-crop ; for a Pea loves a hollow Soil ; and, by these several good Qualities of the Horn-shavings, the Pea is so forced on in a quick Growth, as commonly makes it outrun the destructive Slug or naked Snail's Damage, which is an Insect that is the greatest Enemy of all others to Pea-crops in warm wet Seasons ; inso-much that a Farmer cannot depend upon a good Crop of Pease till they are almost in Blossom, because of the Depredations that the Slug is apt to make among them ; and, altho' the Pea is not without other fatal Incidents besides the Slug, yet this is the archest Enemy it has, and therefore any thing, that may tend to secure it, must be valuable. But this profitable Piece of Husbandry of Manuring Ground for Pea-crops with Horn-shavings, extends itself in particular to the Fertilizing the next Crop of Grain that is to succeed the Pease, because when the Shavings lie in the Ground the first Summer, for assisting them in a fruitful Growth, they are rotting and mixing with the Earth, and so meliorate it, that one or two Plowings will prove sufficient after the Pea-crop is got off, to sow Wheat-feed in the same Land ; and therefore they commonly plow the Ground into Broad-lands immediately after the Pease are carried Home ; and, if it wants a second Plowing at Sowing-time, they perform it cross the last Way of Plowing, and sow the Wheat in Broad-lands, if it is a dry Soil ; or, in wet Soils in the *Chilturn* Country, they sow it in Two-bout Lands ; and if in wetter Soils than that, they sow it in three or four Bout-lands, and seldom, very seldom, fail of having plentiful Crops.

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Of the Hazard attending the Sowing of Beans and Pease in March, shewn by two Cases that happened to Farmers. — This Month is always the most busy Time with the Farmer, and of more and greater Consequence to him than any other in the whole Year, for sowing Barley, Pease, and several other Sorts of Grains. The two first, as well as Oats, &c. are called *Lent-Grains*, as being to be sown in or about *Lent* Time ; and tho' many sow Horse-beans in this Month, they more properly should be sown in *January* or *February* ; which leads me to make a particular Observation that happened this Year to one of my neighbouring Farmers, who, being above Seventy Years of Age, and having but two Horses in all, could not get his Seed into the Ground so soon as bigger Farmers ; which necessitated him to sow a four Acre Field with half Horse-beans and half Hog-pease in a Mixture about *Lady-day*, I think, in the Year 1736, and he happened to have the best Crop of them in the Parts where he lived. The Reason was, that there followed so dry a Summer, that few Showers of Rain fell till about the latter End of *July*, when there was a great deal of Thunder and Rain in a Fortnight's Time, which watered the old Farmer's Pea and Bean-crop to his great Advantage ; for at this Time they were all green, by Reason of their being latter-sowed ; when most of the Bean and Pea-crops, both in Vale and *Chilturn* Countries, that were forward sown, had their Blossoms dried up, which occasioned very thin Crops of the Cod-ware in most Places. Another Farmer, having a five Acre inclosed Field to sow with Horse-beans and Pease in a Mixture of one Part Beans, and two Parts Hog-pease, happened to employ a Stranger to sow his Seed in the random Way ; who, not well understanding his Business, sowed this Sort of mixed Seed too thick, at the Rate (as was thought) of
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six Bushels to an Acre in the Stitch Method of Sowing. However the Mistake happened to prove on the Farmer's right Side ; for, the Field being sown thus thick, the Roots became shaded, and he had a very great Crop this same dry Summer, and which was also occasioned partly by the sowing both Beans and Pease together ; for the Horse-beans kept up the Hog-pease, and consequently helped them to ripen sooner than ordinary ; and as the Pea at the same Time run its Claspers about the Bean-stalks, it kept both its Roots and them in a moist Condition, which generally occasions both to grow apace, cod well, and ripen together. Which two Cases, as well as a Thousand more that might be named, proves Farming at best but a Lottery, with this Exception, that the most diligent and most ingenious Husbandman has at least three Chances to succeed in his Crop to one of a sluggish ignorant obstinate Farmer, nay, I believe I might justly say seven ; for it is a common Saying, *That a bad Husbandman has a Chance once in seven Years to get the best Crop* ; and then I suppose it is meant by Vertue of a hot, wet Summer, which makes all rich Grounds throw up so rank a Crop, that it falls down betimes, and becomes of little Value, when the poor Grounds, by this Means, are brought under a Mediocrity of Fertility, and thereby are produced the best Crops ; accordingly it has been observed, that, where a latter-sowed Crop of Horse-beans has hit once, it has missed several times ; for it a Rule with the best Farmers, that an early Sowing intitles them to hope for the best Crop ; for the old Saying among them is, — *Sow early and have Corn, sow late and have Straw.*

The Nature and Culture of the Common and Round-cival Maple Pea. — This Pea may be called a Hog-Pea, or a boiling Pea : In Hertfordshire we sow it as a Hog-pea, but it is made use of in many
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Places as a boiling Pea ; and where they do this, they call it a Grey-pea, as in *London*, where the Women boil it, and cry it about the Streets for Grey-pease. It is of a good Size, and a tender Sort, and therefore we *Hertfordshire* Farmers, that know its Nature, dare not sow it till the latter Part of *March*, lest the Frosts take it, and the Crop be spoiled. For this Reason it is, that the Maple-pea is not fit to be sown in *February*, and they that sow in that Month, or in the Beginning of *March*, run the greater Risque of the Crop's being damaged by the cold Weather that generally blows at that Time ; but, when it is sown on a pretty loose loamy Earth about *Lady-day*, we find this very Pea to yield commonly the best Crop of all others sown in the random Way ; and for this Reason it is sown in the Western Part of *Hertfordshire* more common than any other Pea whatsoever, as being after many Trials found to be the best common Hog-pea for this Country. But there is a Rouncival Sort of the same Nature, that requires much the same Culture. In this Month 1743, I drilled in for the first Time some of these Pease, and, by houghing the Intervals in due Time, I had in Return a desired Quantity. This Rouncival Maple, or very large Grey-pea, is a very good Sort to gather either green in the Pod, or to feed Hogs or Horses with, as being the biggest of the Rouncival Sort of Pease ; and as it yields a great Crop both in Fruit and Straw, provided they are sown in a right Way, it ought to be coveted by all Persons whatsoever, that have a Conveniency of sowing them ; they very well agree with a gravelly, a chalky, a sandy Loam, and an intire loamy Soil, especially if any of these are in good Heart, either by former or present Dressings or Manures ; and then, if the Ground is plowed right, the Seed sown right, and the Season favourable, there is great

Reason for the Farmer to hope for a plentiful Return at Harvest; but this Pea will not agree with clayey or other wet cold Soils.

The Nature and Culture of the Codgel or Beau-dye Pea. — This is not a Rouncival-pea, but one of a middling Size; is of the tender Sort of Hog-pease, but some boil them; is of a whitish Colour, with a black Speck or Eye in it, and therefore is called *Beau-dye*, or rightly, *Beau-eyed Pease*. When it takes the Ground well, they grow into vast Crops, and yield five and twenty or thirty Bushels from one Acre; but then, to do this, they must be sown to the Quantity of three Bushels and a Half, or four Bushels, on each Acre of Ground, and that must be either a gravelly, chalky, sandy, or dry loamy Earth; for this Pea will neither bear to be sown till this Month, nor in any clayey, nor wet cold Soils. This Quantity is to be sown in the random Way; for, if these were to be sown in Drills, half the Seed would do: They have lately been sown in our Parts, but are now out of Reputation with us, because we find them to be a very uncertain Pea, when sown promiscuously in our cold hilly Country; but, where dry Lands lie sheltered, they are in many Places preferred for one of the best of Pease, as about *Chaffon* in *Buckinghamshire*, in *Hampshire*, and other Parts, and so are the *Hampshire Kid-pease*; both these are very early ripe, and so is the *Puffin-pea*.

Hampshire Kid-pease. — This is a smaller Sort than the *Beau-dye Pease*, but much of the same Nature, for agreeing best in gravelly, chalky, sandy, and dry loamy Grounds, because a Clay, or other wet cold Land, will not suit them; they are sometimes vast Yielders, but their Crops are very uncertain, being subject to be damaged by the Inclemency of the Weather, sooner than several other Sorts: They are sown in some Parts of the *West*, in the

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random Way, for it is hardly worth while for a Farmer to sow such a small Hog-pea as this is in Drills, that would better suit a larger and more valuable Sort of Pease. The Maple, the Beau-dye, and the *Hampshire* Kid-pease are all of a softer Nature than any of the *Windsor*, or Horn-grey Pease.

Of the Nature and Culture of the Carolina Pea.

— This is a Rouncival Sort, and lately discovered to be an extraordinary yielding Field-pea, either for the Use of the Hog, the Horse, or the Pot. We have none of them, as I know of yet, in *Hertfordshire*; but I have seen a Field of them growing in Drills elsewhere in so plentiful a Manner, that the Owner Farmer asked me, if ever I saw a bigger Crop of Field-pease in my Life? I answered, I did not remember I ever did. It is this Pea, that in a certain Part, and only in a certain Part of a County, has got into such a Reputation, as is likely to make it be esteemed the best Pea that can be sowed by a Farmer, for its being of the large Sort, and so forward ripe, that they were going to cut them early in *July*, in order to sow Turnep-feed on the same Ground, which was a gravelly Loam; and, by this Means, to get a Crop of Wheat to succeed the Turnep-crop, which gives the Farmer the profitable Opportunity of getting three several Crops off one and the same Field in a Year and Half's Time, without hardly impoverishing the Land, because the Pea-crop, as well as the Turnep-crop (if the latter is eaten off) prepares the Earth for the Wheat-crop, by hollowing the Ground, preventing the too violent Exhalations of the Sun, killing of Weeds, and assisting the same Ground with the Dung and Urine of Sheep, Cows, or Oxen. But these Pease, tho' they are a pretty hardy Sort, should not be sown too early, in any Ground: *March* therefore is a very proper Month for sowing this Pea, that affects a dry, warm Soil,

Soil, for a Clay, or wet cold Soil, is not agreeable to it. Three Bushels sow an Acre of Pease in the random Way, and a Bushel and a half in the Drilling Way, or less, if they are set with a Stick in Rows ; but the Setting of Pease in Fields is now in a Manner left off every where, since the Drilling of them is found to be a much cheaper, quicker, and far better Way.

The Nature and Culture of the Non-paril Pea.— This is a white Pea, of the Rouncival Kind, and, I think, justly deserves its none-such Name, for its great increasing Crops, whether sown in Field or Garden ; for its delicious Taste, if eaten green, or, if boiled after Harvest ; for its making a rich Peasop, a Pudding, or for being dressed with Bacon, or Pork, and for boiling tender in a little Time, if they come off a short gravelly, or a sandy, or chalky, loamy Ground ; for no Pea whatsoever will boil soon or tender, that comes off a tough Clay, or other stiff Earth. This Pea affects a dry, loamy Soil, or other dry Ground, and to be sown in Drills, though both this, the Rouncival Maple, the *Carolina*, and the blue Union Rouncival Pease will all of them grow well, if sown in the random Way, in a prepared Soil, but not near so well as in Drills. I sowed this Sort in Drills last Year 1743, in a loamy Land, and they fully answered my Expectation. The best Time to sow this Seed is in *March*.

The Nature and Culture of the Rouncival blue or Union Pea.— This is likewise a very good Pea, for growing and returning great Crops, though sown on ordinary Grounds ; and, for this most profitable Quality, it excels all other Rouncival Pease whatsoever, as is well known to those who sow this famous Pea every Year, as many do ; some for pulling and selling them in green Pods, for eating these large Pease green ; and, in this Manner
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of using them, there are vast Quantities sold every Season at the *London* Markets, brought thither from about *Acton*, *Fulham*, *Kensington*, and many other Places where they sow these and other Pease, according to their Natures, and that of the Soil they are to be sown in. There are Variety of Soils in the County of *Middlesex*, as Gravels, Sands, Loams, and red and yellow Clays, almost all Sorts, except Chalks. Here they begin to sow their Hotspur Pease in *October*, as the *Ormots*, as they call them here, and the Masters in Drills, at two Feet asunder, which they commonly begin to hand-hough between *Christmas* and *Candlemas*; and when they do this about *Acton* in their Loams, they hand-hough the first Time the Long-way of the Drills, and take Care to leave the Ground level, otherwise it would lodge the Waters, and chill and damage the Pea-roots. At the next Hand-houghing, they earth up the Roots, and repeat the same Form of Sowing a second Time, for they never draw their Sort of Horse-break thorough the Intervals of these forward sown Hotspur Pease, for fear of laying the wet Earth up too near and too thick on their Heads and Stalks, that are in the early Part of the Spring-time so tender, that they cannot suffer any Bruise from rough or clotty Earth, lest the Frost get into such a damaged Part, and kill the Pea-crop. Now these *Middlesex* Farmers have a Sort of Horse-break in Use among them for breaking the Intervals of Ground between the Drills, but it is a very clouterly one, and, in my Opinion, no more to be compared to the famous new-invented Horse-break for doing good Work between Drills of Pease and Beans, than Sixpence is to a Shilling; and, as cunning as these Shavers are, they are ignorant of many Parts of the best Husbandry, which are practised by the more credulous and rational Farmers and Gentlemen, for these Chaps are for the
greatest

greatest Part of them very opinionated, and think, because they live the nearest of all other Farmers to the Metropolis, they know more than others. Indeed, I must speak in their Praise, for their Garden and Meadow Management; but, for their Agriculture, they are as bad, and like to continue so, by conceiting themselves above Instructions. However, before I quit my Writing here on this *Middlesex* Culture for Pease, I shall observe and hint of their Preparing their loamy Land for their Sowing. When they sow their Ground with Barley, they set a Crop of Pease on the same, after the Barley is got off, by first plowing with the Swing-plough their Barley Broad-land into Two-bouts and a Half, which make five Furrows. The next Time they plow two of these narrow Bout-lands into one, by making five Furrows in all; when these are harrowed all plain, they take their Drill-plough, which is made with two broad Boards, set in a very narrow Distance of each other, and this without ever a Wheel, and being drawn by Horses, one or more in Length, a Drill is made, to the Number of four in a five Bout-land, and the Pease sown out of a Man's Hand; for here they have neither the Three-wheel, nor the Pulley Drill-plough, and therefore their Pea-seed is not sown out of any Hopper; but after they are sown by a Man's Hand, they harrow the Drills level, and leave them till they hand-hough the Intervals. But in some of their Loams they sow Pease broad-cast, by observing this Difference: If they are in a rough Condition, they sow in Drills; if fine and clean, broad-cast; and when they sow Pease in their clayey Loams, in Drills, they never horse-break the Intervals, only hand-hough them; but when the Land is fine, and they sow it with Pease in Drills, they oftentimes employ their *Middlesex* Horse-break, which hardly one Farmer in ten has at this Time. When they

they intend to sow the blue Rouncival Union Pea, or the *Essex* Roothing small white Pea, which they generally do every Year in Abundance for selling them, as I said in green Cods or Pods in a *London* Market. The first Plowing they give their Barley-stubble is just after Harvest, in Two-bouts and a Half Land, or five Furrows: The second Time a Month before *Christmas*, they plow their Half-lands again; and after they have lain in this Posture till *March*, they harrow and sow these two Sorts of Pease in these five Bout-lands, in four Drills by a Man's Hand, and harrow them in, as I have observed. But, did these *Middlesex* Farmers know the Value of these Drill-ploughs and Horse-break that I have wrote on, I am persuaded some of their better sort of Farmers and Gardeners would soon write to me for furnishing them with one of the Drill-ploughs, and the new most ingenious, and the most profitable Horse-break that ever was invented by Man. This Rouncival blue Pea I sowed in *March* 1743; and as the fore Part of the Summer proved wet, for a considerable Time, and the latter Part of it as dry, I had a fine Crop of these delicate Pease; and so I had of the Rouncival Maple, and Non-paril, which I have saved for Seed, in order to furnish any Gentleman or Farmer with the same on a proper Order; and as they are now very cheap, and never drier or foundier, they have the best Opportunity to purchase any of these Sort at Home. And I must repeat it, that the great and biggest Rouncival Pease, the Maple Pea, is such a one, that if Thousands were to see them, and know their Vertue, I am certain they would send for them in all Haste, for the Sake of their being so good to eat green or ripe. And the like for the blue Union, which must be of great Service, indeed, to those Farmers who have a dry Loam, a gravelly, chalky, and sandy, loamy Ground,

Ground, to sow this great blue Pea in ; which, if managed right, and they sow them in Drills out of the Drill-plough and Horse-break, and hand-hough them afterwards, as they may easily and most cheaply do by these Means, they will be intitled to the great Increase of having eight *Loads*, as we call them in *Hertfordshire*, or forty Bushels from off one Acre in a kind Year, for sowing only two Bushels of their Seed in the same Ground, as have been got by several.

How Pease and Barley have been spoiled, when sown in gravelly Grounds. — Now take Care you do not bury your Pease and Barley in your gravelly Grounds, when you sow them broad-cast and harrow them in, for these Soils have often, by the ill Management of Farmers, been the Ruin of many Crops of these Grains, by the binding Quality of the Gravel, when great Rains have fell on them presently after the Seed has been sown and harrowed in ; which Misfortune to prevent, the judicious Sort will plow, sow, and harrow in their Pease, or Barley every Day, as being a much surer Way to be free of such a casual Loss, than to plow on and not sow till a whole Field of several Acres is ready and is sown all in one Day ; because, by daily sowing of the Pea-feed, the Hazard is not near so much, as when several Acres are sown and harrowed in at once ; and if the Seed is bound in by the Running like a Pancake of the Surface, when washed by great Rains, the Pease and Barley Sprouts are kept in, and often caused to rot, because they cannot make their Way out through the hard, crusty top Earth of gravelly Grounds. To prove this, I shall recite a Case as it happened to a Farmer at *Cheffum* in *Bucks*, where having sowed his Seed broad-cast in such a Soil, and harrowed them, great Rains fell presently after, and bound them

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them in so tight, that there was little Hopes their Sprouts would have ever gotten through the top Earth. But, as it luckily happened for this Farmer, a Neighbour's Team being at Harrow, in the next Field, run away with the Harrows, and got into this Man's Field that had been sown with Pease ; and it was plainly observed, that, where the Harrows were drawn, there was a second Crop of Pease ; but, where they missed, there was none. Hence it is, that several Farmers take the Caution, to give their Pea-crop, sown in the Broad-land fashion, a Harrowing just as their Heads are peeping out of the Ground, which not only loosens the Earth, but moulds it up to the Pea-heads, and oftentimes greatly improves the Crop.

Of Sowing Pease with the Double Hertfordshire Plough. — Where a *Chilturn* Soil is of a stiff Nature, as several Fields are, by a small Mixture of Clay with Loam, or Gravel, or Chalk, it is not proper to sow Hog-pease in it, in the Broad-land Mode ; for, if this is done, the Chills of Wet would be apt, with the cold Nature of such Land, to spoil the Crop. They therefore sow Pease in such Soils in the Stitch or Ridge Fashion, either by the single or double Plough, and then the Pease lying higher than the common Surface, they have the better Chance to become a good Crop ; but the best Way of all others, to sow any Sort of Pease whatsoever, is to be done by the Drill-plough.

Sowing Pease by the Drill-plough. — The Three-wheel Drill-plough, for this Use, is a most valuable Instrument on many Accounts too tedious to name here. If the Ground is in poor Heart, by sowing Pease out of the Hopper of this Plough, the Manure or Dung, that is wanted to enrich it, is very much supplied by the Fall of Earth on the Pea-feed immediately after it is fallen into the Ground ; which not only serves, as a Cover to the Seed, to

guard it from Field-fowls, Frosts, and Slugs, but, by the Wash of Rains, the Salts of it are carried down to the Pea-roots as well as the Dews, that this Earth makes a Lodgment of from Time to Time ; and when afterwards the Benefits of two or three Houghings by the Break and a Man's Hand are added to them, the Pea-crop oftentimes becomes of the biggest Sort ; which, when it so happens, a Farmer is very much encouraged to sow the same Field with Wheat, either in the Broad-land Way, or in the Stitch or Ridge Way, or in the Drill-way ; and then he has more than ordinary Reason to hope for a plentiful Crop of the Golden-grain. The Slug likewise, which is the arch Enemy of a Pea-crop, by this Sort of Drilling Husbandry is kept from doing them Harm, for Houghing destroys them, with a little Care and Help besides. Or the Wheat-feed or Barley-feed may be drilled in the Intervals of Ground after the Pea-crop is got off, and then the Seed will have fresh Earth to grow in, which is one main Benefit appertaining to the Drilling Husbandry ; for, by this new Mode of Drill-sowing, there is always a Fallow at the same Time there is a Crop growing on the Ground, which gives the Farmer Room to have continual or constant yearly Crops of different Grains one after another in the same Field. A fine Article indeed in the Farmer's Way, who before used to have his Ground run over with Weeds, to the Destruction of, perhaps, half the Crop of Grain ; and, besides, was obliged to lose every third Year's Profit, by making a Fallow, or only plowing the Land one whole Year for Wheat-feed to be sown in the same. Thus the Tenant worked two Years for a Crop of Wheat, before the Drilling of Wheat was invented. There are other old Ways of sowing Field-pease, I have not mentioned, that several *Chiltun* Farmers follow

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low at this Day ; but that of sowing Pease in every third Thorough is of a late Date, and invented to supply the Drill-plough ; but this does not answer, especially where the Land is of a stiff Nature, for then the Pea-seed is in great Danger of being buried by the Fall of the next Furrow of Earth that is turned on them by the Plough ; and if the Pease do come through and grow well, yet the Hand-houghing of the two Furrows of vacant Land between the Rows of Pease must cost three times more, than if the Horse-break was to be employed first ; and even then it is impossible for Men with Hand-houghs to break the Earth at twice Houghing it, as the Horse-break can at once ; and besides the Break will do ten Times more in a Day than a Man can ; so that the Cost of Houghing, by Hand houghs, has made the Farmers sick of sowing Pease in Fields in this Manner. It was this very Reason that made several of our Farmers leave off Pease in every third Thorough, so that few follow it with us at this Time. One of them having an unskilful Ploughman, that plowed a large heavy Furrow on the sowed Pease, seeing they did not come thorough the Top-earth, as was expected, fell a damning the Pease, without considering that his Ignorance was the Cause of it ; for, had he turned a narrow and shallow Furrow of Earth on the Pease-feed, if the Ground was not too stiff and heavy, they would have made their Way thorough it. Pease love greatly to grow on gravelly or any loamy Land, that has had Mud or Highway Dirt plowed into the same ; and it is well known to every *Hertfordshire* Farmer, that when a Crop of Pease are sown on a Wheat or Barley-stubble, that has been dressed with *London* Coal-Soot, he seldom ever fails of a good Crop of them ; but this blue Union, or blue Rouncival Pea, if it is sown on a very rich Earth, it runs too much into

Straw, and less into Corn. And however mysterious this may seem to a Person unacquainted with this excellent eating Pea, who, perhaps, may wonder that such a great Pea, as this is, should disagree with a rich Soil; I do assure him he will find my Words true, that, of all fine Rouncival Pease, none will thrive so well on a poor, lean Earth as this will, and I write this not only from my own Experience, but from that of many others.

C H A P. VII.

Of Thetches.

THE Nature of green Thetches. — I call them *green*, because it is here meant, Thetches growing before they are in Blossom, or all the Time they are in Blossom; and, when in this Condition, green Thetches are made Use of, for feeding Horses in the Field, or mowed daily, and given to them in Racks in the Stable, they are of excellent Service to the Farmer, because they fat Horses suddenly that do not work; or, if they are fed on them under their Plowing and Carting, they will prove hearty and healthful Food, by causing them to be leisurely loose in their Bodies. It is these green Thetches that give many Farmers the profitable Opportunity in Summer-time of feeding their Store-sheep, by baiting them on the same Part of every Day, after they have been feeding on a Common all the Morning; which double Feeding gives the Sheep a full Belly-full, and then they dung accordingly in the Fold: And, what adds to the great Advancement of sowing Thetches for a Summer green Food, the Crop is got on the fallow Ground, which otherwise would lie idle; and, when
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a full Crop of Thetches grows here; they shade and loosen the Earth, prevent Exhalations to the Keeping in the Spirit of the Ground, kill Weeds, or hinder their Growth or Seeding, and thus prepare the Land for sowing Wheat on the same at the next successive Season; for Wheat delights to follow the Bean, Pease, or Thetch-crops, insomuch that, where a good Crop of any of these preceeds the Wheat-crop, it seldom fails of being a full one. And, I think, I may further add, that a large Crop of green Thetches commonly so hollows the Ground in the Summer, when it is under a Preparation for Wheat, as to save one Plowing, which at the Stirree-time is four Shillings for Plowing an Acre. Thus a full Crop of green Thetches may be made under a right Management to hollow the Ground, and save the Charge of one Plowing; prevent the ill Effect of too violent Exhalations, kill or prevent the Growth of Weeds, supply the great Expence and Trouble of Dunging Land, and prepare it for a successive Crop of Wheat in the fallow Summer; and all these and more Benefits for sowing only a few Thetches, which leads me to give an Account of that Article.

Of the Soil proper to sow Thetches in. — This Seed agrees with almost all Sorts of Soils, as being a most hardy Grain, will stand the Severity of the Frosts, Snows, Waters, and cold Winds, much surer than any Pease whatsoever, as is evident when they are sown among Hog-pease in the random Way; for, where Pease die by the Accidents of Weather, the Thetch generally lives and flourishes: And it is upon this Account, that many Farmers sow these Thetches in a Mixture with Pease, in order to have a sure Crop; for, if one misses, the other may hit; but then such a mixed Crop must be given to Hogs, for if the Gore-Thetch is sowed among Pease, or even among Horse-beans, there is hardly any such thing

thing as Parting them conveniently. Thetches may be sown either to be eat green, or to stand for a Crop of Seed, from *Michaelmas* to *May* at several Times. And it is usual with great *Chilturn* Farmers, especially who occupy large inclosed Fields, to sow Thetches at different Times, that one Crop of Thetches may succeed another to eat and fold upon; and when they have been thus eaten by the Sheep, the same Land may be plowed up, and so again it may be plowed once or twice after, in order to get a Tilth for Wheat. Others will plow Thetches in, when almost Knee-high, to lie and rot in and dress the Ground for a Wheat-crop, instead of Dunging it, and they will smok and stink while they are putrefying, to the great Enriching of the Ground, for producing a large Wheat-crop; but this large Sort of Wheat-Husbandry is best done in sandy or gravelly Loams, where the Soil is of a hungry Nature. This is one of the best Sorts of Husbandry; for, by this Management, a small inclosed Farm may be made to feed a great many Sheep; but then they must feed on the Thetch before they kid, otherwise the Stalks will grow dry; for that the Sap will then be employed to feed the Kids. The Thetch will grow in wet Vale Ridgeland, or in the dry Soils of inclosed *Chilturn* Fields, whether it be a sandy Loam, a Chalk, a Gravel, a dry intire Loam, or a wettish Clay or Loam; in any of these the Thetch will flourish, if encouraged by the Strength of the Earth; for, where the Ground is poor, you may expect a poor Return.

Of Sowing Thetch-feed. — But one Plowing only and no more is generally allowed for sowing Thetch-feed, and this commonly on that Ground, which, by the usual Season, is to lie fallow; wherefore either an Oat or Pea-stubble Earth is that which is customarily put to this Use, because the Thetch will

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will grow on a rough Soil, and in a poor Soil, but certainly best in a rich one. If Thetch-feed is to be sown in Winter Time, from *Michaelmas* to *Christmas*, the smallest Sort of Thetches are mostly made Choice of for this Purpose; for these will sooner, and safer be covered by the Harrows than a larger Thetch, because the Smallness of their Bodies suffers them to enter deeper, and lie in those minute Receptacles and Crevises, where the large Gore-Thetch cannot make its Residence, and thereby is the more exposed to suffer by the Extremities of Frosts and cold Winds, when the lesser Winter Thetch lies enveloped in a secure Cell or Bed, with its Roots wrapped up and covered on all Sides, by the ambient contiguous Earth, and thus becomes the more fortified to withstand the many Assaults of Winter Weather; for, if a Thetch, by the Largeness of its Body, is obliged to lie in a hollow Position of the Earth, it cannot receive that Nourishment nor Security from its Mother, as the smaller Thetch can, that lies in a proper Depth, sustained on all Sides with a protecting Mould; which in Winter it stands in the greatest Need of, even as much again, in my Opinion, as it would do, if the Thetch was sown in *March*, because many Vegetables are known to die in the Declension of the Sun's Heat, that would live, if their Embryo Sprout was to shoot out in the Increase of it. Hence it is, that some Farmers make this Difference, and sow the more tender large Gore-Thetch in *January*, *February*, *March*, and *April*, for either being cut green for feeding Cattle under Cover, or for feeding them in the Field; and also for their growing sooner than the small Thetch into large succulent Stalks; and, when either the small or great Thetch is to be sown, it is to be done as soon as the Ground is all plowed, by sowing from two to three Bushels of their Seed on one Acre, twice in a Place, and then
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all the Ground is to be harrowed long-ways and short-ways; that is to say, cross-ways, where the Situation of the Land will admit of it; and thus the Sowing-work is finished, till the Roll is wanted to lay the Surface smooth, to discourage the Rise of Worms, to crush to Death the naked Snail or Slug, to mould up the Roots and Stalks of the Thetches, and thereby give them a new Nourishment: And lastly to close the Top-earth, so as to keep out the too violent Heat of the Sun-beams, which otherwise might enter into the Ground, and parch up the Roots of the Thetches to their Destruction, as is often seen in gravelly, sandy, and chalky Soils, where these prudent Steps of good Husbandry are not duly observed. When the Rolling Part is finished, the Work is done till the Crop of Thetches is eaten off in the Field, or cut, unless there appears the rampant Hog-weed, the Boar or common Thistle, the Cats-tail, the Cammock, the wild Parsnip, or some other of the larger Sort of Weeds in such Numbers, as call for the Use of the Weed-hook, and then it ought to be used with Care and Diligence; for, altho' the Thetch is a Weed-Preventer and Killer, yet, under that Denomination, it is to be considered only as such, as it is able to overcome Annuals, and the smaller, weaker Sort of Weeds; for those of the first Magnitude are above its Match, and capable of drawing to their Growth those Juices of the Earth destined by the Farmer for nourishing only the Thetch-crop. Now, by such early Sowing of Thetch-seed from *Michaelmas* to *Christmas*, their standing Crop will be ripe as soon, or sooner, than the Wheat-crop; and, to speak to the Purpose, I am obliged to say such an early Sowing is very requisite; because Thetches, when they are sown thick, and grow well, commonly run into a Periwig Matting Growth, insomuch that, if a long rainy

rainy Time happen in their Harvest-season, and this should be so late as in the latter Part of *August*, or in *September*, the Farmer is obliged to be under a great Risque of having his Crop of Thetches rotted and spoiled on the Ground by such a Series of wet Weather and long Nights, that impedes their Drying ; and then they cannot be cured, as many Farmers who sow Thetch-seed too late, have to their Cost experienced, and as I have often been an Eye-witness of ; for I have known several obstinate Farmers, that would venture on the too late Sowing of Thetches caught on this Account, and thereby have been obliged to see their Crop of cut-down Thetches lie rotting in a Field by the frequent Fall of Rains, even in the Month of *October*, and so have lost a fine Crop of this most useful Grain, which, had the Seed been soon forwarder, might have been got into the Barn or Stack in the best Order. When a Crop of Thetches is ripe, it may be cut, either by the short or long Hook, if the Crop lies in a very thick Growth ; but, where it lies in a thinner one, it may be mown, if the Seed was sown broad-cast, and not in Ridge two or three Bout-lands, and Mowing gives the Workman an Opportunity to make a greater Dispatch than Cutting by the Hook, which is a more tedious and dearer Way : However, let the Thetch-crop be cut in any Form, it is the Practice of some to bind them up in Bundles, and lodge them in a Barn, for their more ready Thrashing ; or I should have said, they bind them in this Manner, when a Crop of Thetches or Pease have grown in the Drilling Way, for then they lie in Rows, and the more commodious for binding in Bundles ; but this Sort of new Husbandry is practised only in two particular Parts of *England*, where they sow the Seeds in Drills by the excellent Drill-plough, which lays Thetch-seed into the Ground in such Order, that a

Bushel and a Half will sow one Acre well, and deliver it afterwards from the destructive Power of Weeds, by the most excellent Machine that ever was invented by Man for this Purpose, viz. The new Horse-break, that kills Weeds, nourishes the Roots of Pease, Beans, and Thetches, and keeps the interval Earth in a loose, clean Posture, preparatory for sowing Wheat-seed in the same, after the Crop of Thetches is got off. In short, I verily believe, this new Sort of Horse-break had better be bought by some great Sort of Farmers, if the Price was fifty Pounds for it, rather than be without its Use, because it would stand those Farmers, who sow, perhaps, thirty, forty, or fifty Acres of Beans, Pease, Thetches, or Tills in the Drilling Way, every Year in *Chilturn* Lands in such Stead, and do them, perhaps, in Time, Hundreds of Pounds Worth of Service ; for, in some Sorts of dry, loose Earth, this Instrument will surely clean the Interspaces between the Rows of Drill Beans, Pease, Thetches, and Tills alone, without the Help of any Hand-hough whatsoever, as every Year's Experience shews by the Practice of those Farmers, who are Occupiers of such Earths, and sow Beans, Pease, Thetches, or Tills, after the Drilling best Method, and often get the best of Crops by this Means ; for unless there are many Weeds, or the Ground is very rough, there is no Occasion for a Hand-hough to be used among them besides the Horse-break : And, as an Evidence of this Truth, I know where a Person may see Hundreds of Acres of Beans and Pease, &c. that are sown in Drills, and grow in flourishing Crops, without any Thing done to them more than what the excellent Horse-break does. But then I must observe, that this could not be compleatly done, was it not for the very late new additional Invention of a few cheap

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small Irons, that, with the Former, thoroughly breaks the Ground, and moulds up the Roots of the Grain.

C H A P. VIII.

Of Tills.

THE *Nature of Tills, or Lentils.* — Tills are a Pulse, smaller than a Thetch, of a whitish-brown Colour, and of a very fattening Nature ; for they will fat a Horse for Sale, and an Ox for Beef, with Hay : Their Haulm is almost as good, as ordinary Hay, for Horses, Cows, Oxen, or Sheep. Tills are exceeding good to fat Hogs with, and make one of the best of Puddings tied up in a Bag, and boiled. They make Cows milk extraordinary well, when given them in their Straw ; so, when they are to be given to Horses in a Stable, they tie them up in a Bundle, and throw it into a Rack, which as the Horses pull out, many of the Tills will drop into the Manger, and be eat up by them. In short, when they are given in this Manner, they prove Hay and Corn together, and will fatten Cattle apace.

The Culture of Tills, or Lentils. — This Month is a very proper Time to sow Lentils in, either alone, or among Corn ; they very much affect to grow in dry Soils, as Chalks, Gravels, and sandy Loams, and therefore are commonly sown amongst Oats ; half a Bushel of Tills, in this Mixture, is sufficient to sow one Acre of Ground : If sowed alone, a Bushel and a Half is but sufficient to sow over one Acre ; and, if a favourable Summer follows, there may happen to be fifteen Bushels of Tills got off the same. If they are sown with

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Oats, they are easily parted from them in the Barn; because, on Throwing the Oats and Tills together, the Tills, being the havier Corn, will fly further than the Oats, and so may be separated; they are easily mown as they hang and twine together; and what is very profitable to this Grain, they will grow well in poor dry Soils. It was these Tills in some Places that stood the Poor's Friend in the hard Winter and Spring-time of 1739-40, when many had Tills ground down into Flour, and mixed it with Oatmeal for making Bread, when Wheat was sold this Time at seven Shillings a Bushel in *Hempstead* great Market. Near *Brackley*, about twenty Years ago, some Farmers used to sow Tills in a whitish Soil among Barley, which, being ground together, made a Bread in dear Times of Wheat for the poorer Sort of People. Some are of Opinion they beggar Land when sown alone, because they seldom afford a full Cover to it. Tills may be sown in Drills, in the best Way of all others, at eighteen Inches asunder, and the Interspaces houghed by the Break drawn by one or two Horses only; which is prodigiously cheaper, than when the Intervals are cleaned by the *Dutch* Hand-hough, it far exceeding any Hough-plough whatsoever.

C H A P. IX.

Of Sowing artificial Grass-seeds, and particularly of Clover-feed, and its Grass and Hay.

TH E Benefits arising from Sowing Clover-feed. — This Grass is now become the most general artificial Grass sown in *England*, as having acquired such an universal Reputation, for its many profitable Qualities; so that the *Chilturn* Farmer, who

who is possessed of an agreeable Soil for it in inclosed Fields, and does not sow it, is deemed one of the worst of Husbandmen : But some carry their Censure further, and closer than all this, and say, that if such a Farmer does not sow Clover, he cannot pay his Rent, as Times now go in the Farming Business ; meaning, that as many large Downs in the *West*, and Commons elsewhere, are of late plowed up, and converted into Arable Land, and by the new Improvement of Husbandry in many Places carried on with great Success, Grain is now become very plenty and cheap, and like to continue so. The Sowing of Clover, and other artificial Grasses, is absolutely necessary to be done, where the Soil and Conveniency will admit of it, that a Farmer may be able thereby to feed his Cattle with it, save his natural Hay to sell, and his Oats, Pease and Beans, in a great Degree, and do his Land a vast Service, and all this for a trifling Expence. For, *First*, as ten Pound Weight of this Seed sows one Acre, and that, at a common Cost, amounts to but three Shillings and four Pence, at a Groat a Pound, there is hardly any Farmer that cannot afford to sow his Land with such cheap Seed. *Secondly*, he may, by this Means, employ his Fallow Ground, which otherwise would lie idle ; so that a Crop of Clover, got here, may be justly reckoned almost a clear Profit. *Thirdly*, Such a Crop of Clover, if it grew in full Plenty, may be accounted, by a common Computation, to be worth twenty Shillings an Acre at least. *Fourthly*, Such a full Crop of Clover will last two Years very well, if encouraged once in that Time, with the Assistance of Dung, Soot, or Ashes. *Fifthly*, This rare Grass, when it covers all the Ground, never fails of bettering and improving the Land it grows on to that Degree, that it is in some Parts, where I have travelled, called, *the Mother of Corn*, because it kills Weeds

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Weeds, prevents Exhalations, hollows the Earth, and leaves so many large long Roots behind it, as to become a Sort of Dressing to it. With the Help of Clover-grass, the Suckling of House-lambs is carried on most Part of the Year within twenty Miles of *London*, in Summer, by feeding Ewes with it in the Field; in Winter, by feeding them under Cover with its Hay. With this Grass, and its Hay, our Plough and Cart Horses are subsisted the greatest Part of the Year, to the Saving of our natural Hay and Corn; for Clover alone, when fed by them in the Field, will support them under their Work, and the same in the Stable, when fed by its Hay out of the Rack. Our Weather Sheep and Grass-lambs we fat with it in the Field, and our Store-sheep are supported most Part of the Summer by its Feed, and thereby enabled to dress their Ground with their Dung and Urine in the Fold, to the Saving of many Pounds to a large Farmer, who must otherwise be at a great Expence to buy Manure to supply this Fold-dressing. With Clover several ingenious *Chilturn* Farmers, whose Wives, or Maid-Servants, are capable of managing a Dairy of this Kind, carry on the Business of making Butter and Cheese from this Grass, which formerly was thought impossible, because of its hoving Quality, and the rank Taste it used to give the Butter and Cheese made of it. But now several Farmers have both Butter and Cheese made of it in that Perfection, that many Buyers of them cannot distinguish either from that Butter and Cheese made from some Sort of natural Grass; but, for performing this, there must be more Care and Art employed, than in making Butter and Cheese in the common Way, as I have heretofore given an Account of in some of my former Works: Yet I have this to observe, that notwithstanding the great Conveniency of making Butter and Cheese from
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this plenty and cheap Grass, there are but few *Chilturn* Farmers that do it; because they, more than most Men, entertain the worst Opinion of Books, as believing themselves above Information in that Way, and thereby deprive themselves of many Advantages which they might otherwise have, whereof one chief one is this, how they may make Butter and Cheese from Clover-grass; as I have shewn in one of my Monthly Books, I think for *May*, which if many would take Notice of and follow, neither Butter nor Cheese would have borne the great Price they did in the Years 1740, 41, and 42, when sorry Cheese was sold for four Pence Halfpenny per Pound some Part of that Time, and *Cheshire* for five Pence and six Pence a Pound, even in the Country, to the great Prejudice of the Poor, to whom Cheese is a common Food. Likewise Butter, even the Salt Sort, was sold at eight Pence at several Times in them Years; which, in a great Measure, would have been prevented, did *Chilturn* Farmers make Use of the Opportunity that great Numbers of them enjoy, to make Butter and Cheese from Clover, and other artificial Grasses: But so rare is this Work done, that I know but of two or three Farmers in our Parts that do this; and they, indeed, find their Account to answer so well, that they follow this Business up every Year with Vigour and Diligence, by the great Profit they reap from such a Clover Dairy. But besides the great Conveniency of enjoying Clover-crops, before-mentioned, I have further to observe, that, with this Grass and its Hay, there are many Oxen, Cows, and Calves, fatted; for this artificial Grass is of a very fattening Nature, insomuch that where a full Quantity of it is enjoyed by those dry Beasts, that are to be fatted by it, it will do it compleatly, with the Help of very little else: I mean, after they have been fed all, or great Part of the Summer

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mer, in Clover, in Winter its Hay, and a few Oats now and then, will effectually fat any of the large horned Kind. Clover also, either green, or dry, will cause Abundance of Milk in Cows; and where they can be fed in the Day Time on Clover in the Field, and in the Night Time on natural Grass, as is my usual Way, the Milk will be very sweet, and serve for any manner of Use. And I do further aver, that, where a Person keeps a right Sort of Hogs for this Purpose, a Field of Clover will prove almost an intire Subsistence for them the greatest Part of the Summer, provided the Store-hogs can enjoy it in fresh Parcels; for if they, or any other Beast, are kept so long on Clover, as to stain it much by their Dung, Stale, and Feet, it will have a contrary Effect, even the causing them to pine away, instead of fattening; which leads me to observe further of Clover-grass, by the Want of it in Vale-lands.

The great Value of Clover-grass, shewn by the Want of it in several Parts of Vale-Grounds.—— This artificial Grass, above all others, is the *Chilturn* Farmer's Friend, and the Vale Farmer's Enemy. The Vale-grass Turf is certainly the richest Turf of all others, because its Grass and Hay, for the most Part, will alone fat an Ox or a Horse; when that in the *Chilturn* Country will not, without the Help of Corn besides; and therefore before Clover got Footing into *England*, which it did about eighty Years ago, the Grass Farms of Vales were the best Farms in the Kingdom, because they lett for the most Rent of all others. But since Clover-feed has of late been sown by most or all *Chilturn* Farmers, the Value of such Vale-grass Farms has declined; and the more, by Reason where their Vale Ridge-lands are of a stiffish Soil, and low watery Situation, as most of them are, they will not answer being sown with Clover, not but that
Clover

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Clover will grow here as well as any where, but their graumy, clogging Earth will not admit of being fed on; for in wet Weather the Cattle would be apt to stolch and dirty the Grass, and make it unfit for Feeding. But there are two other chief Reasons why Vale-lands cannot be sown with Clover-seed to Profit. One is, that their Lands lie mostly in common open Fields, exposed, in some Part of the Year, to the Bite of several Persons Flocks of Sheep, and therefore cannot be sown with this Seed to Profit. The other Reason is, that if such Vale-ground was inclosed, and a Farmer could enjoy it to himself, yet even here it would be improper to sow it with Clover, because if they were to sow such Ground with this Seed, and mow the Grass, it would bring such a Hardness and Sowreness in the Earth, as to hinder its being brought into a sweet Tilt for a long Time, and so cause a Loss to the Farmer, instead of a Profit. Hence it is, that a wise and diligent *Chilturn* Farmer may take his Advantage, by sowing his poorer Arable Lands with Clover-seed, and perform all that a Vale-Farmer with his natural Grass-ground used to do; though I must own, not quite so well in Respect to the Sweetness of Seed; for it must be allowed, that no artificial Grass can feed any Beast so, as to cause its Flesh to eat so sweet, as when it is fed on the natural Grass of Vale-lands; however, under a right Management, a Beast may be so fattened, that his Flesh will eat very well; that is, if he is fed sometimes, or alternately, on artificial and natural Grasses in the *Chilturn* Country in the Summer Time: Or in Winter with Clover, Hay, and Oats with Bran, or with Malt-dust, or with Barley-meal, &c. From whence I infer, That where a *Chilturn* Farmer rents a Farm, where his inclosed Fields consist of such a Soil that is proper for bearing Crops of Clover; I

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say,

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say, if such a Farmer does not sow Clover-seed, he is neither his own Friend, his Landlord's, nor the Poor's. And this the Vale-Farmer is very sensible of, not only by the Want of this most valuable Grass, but also by the low Price his Butter and Cheese fetch at Market; in the Agistment of Cattle, and in the Sale of his horned and other Beasts, occasioned, in a great Measure, by the Supply that Clover-grass gives to the *Chilturn* Farmer. Now these many profitable Qualities were so well perceived to arise to *Chilturn* Farmers, that, as I have been informed, the Vale-Farmers used (on Clover-seed's being first sown in *England*) their utmost Endeavours to suppress its Propagation in the *Chilturn* Country, and accordingly petitioned the Parliament to stop its Growth, for that it would prove so detrimental to the Vale-Farmers, as to disable them to pay their old Rents. But all their Efforts, on this Score, proved abortive, and the *Chilturn* Farmer took the greater Encouragement to proceed in the Sowing of this excellent Seed; and the more it is likely to be done from another Use of Clover Hay, that I intend in some future Works to make known to the Public.

The proper Time of Sowing Clover-seed. — This is one main Article in the Art of Sowing Clover-seed; for, if it is sown too early, or too late, it may occasion the Loss of the Crop: For this Reason no prudent Farmer will sow Clover-seed between *All-holland-tide* and the first of *March*; because, if he does, he exposes it to the Damage of frosty Weather, which oftentimes becomes fatal to the Clover-seed sown in that Time. Hence it is, that many Farmers conclude, that Clover is mostly killed by Frosts, and not by the Slug; by Reason when Clover-seed is sown too early, and the Frosts meet it on the Chip, or first infant Sprout, they generally destroy it, especially in Case the Frosts are any thing violent.

violent. I remember that, in *March* 1741, the Shop-keepers, who sold Clover-seed, said, they hoped Clover-seed would grow dearer than three Pence *per* Pound, as it was then at, because they hoped the forward sown Seed, by the Frosts that followed, would be destroyed; and on this Account it is, that few Farmers venture to sow it before *March*, for even then it is not free of this Sort of Danger. And it likewise may be killed by too late Sowing; for, if this Seed is sown in *April* and *May*, and a long Season of hot and dry Weather succeeds, it may dry up the Seedling Shoot, and spoil the Crop, especially where Clover-seed is rolled in; therefore this Month of *March* is the most proper Month of all others for sowing Clover-seed; and the more, for that in this Month the *March* Winds are commonly so sharp and cold, as to hinder the Appearance of Slug, Fly, or Worm, at the Surface of the Ground, which gives the growing Clover-seed a Security of making its first Sprout free of their Rapine. But this Month is likewise the most proper Month of all others to sow Clover-seed in, because now Barley, Oats, and Pease are more sown than in any other Month; and, as Clover-seed, more than any other, is sown among Wheat, Barley, Oats, and Pease, now is the best Time of all others to sow and propagate this excellent Seed in the several Manners I am going to shew:

The Way and Method that some Farmers take to sow Clover-seed among Wheat in March. — This is the rather put in Practice, because all Tith Land, sowed with Wheat, is first prepared and brought into a Porosity of Fineness for the Reception and Growth of the Golden Grain; and that the Wheat Crop may be a full one, such Ground is commonly dunged or folded upon, or otherwise dressed or

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is manured. When then Land by several Plowings is thus prepared, and dressed besides, for Sowing of Wheat-seed in, it is the fitter to sow with Clover-seed in this Month, because it, being in a clean hollow, rich Condition, will presently draw in the Clover-seed that is sown broad-cast over it; for so ready is such prepared Earth to receive, nourish, and produce a good full of Crop Clover among the Wheat, that some do nothing else but sow it, and thus let it take its Chance for Growth, and it oftentimes hits so well as to grow into a full Crop. But others take more Pains to get a Crop of Clover among Wheat; and, if they sow this small Seed among Wheat in this Month that lies in two-bout Stiches or Ridges, they, after Sowing the Clover-seed broad-cast, to the Quantity of about ten or twelve Pounds on each Acre, employ the great, solid, wooden Roll, by drawing it across the Ridges of the Wheat; and by this Means they press down the Seed into the Earth, close the Surface, and very much secure the Roots of the Wheat and Clover, against the prejudicial Power of too much Heat and Drought. Others sow Clover-seed over Wheat, when it lies in Broad-lands, and likewise roll all in this Month for the same Purpose. Others, that sow Clover-seed among Wheat that lies in Broad-lands, will draw some Bushes, or Hasle, or other Rods between the Teeth of the Harrows; and, as soon as they have sown the Clover-seed, will, by drawing a pair of Harrows so prepared over the Wheat, raise Earth enough to cover and hale the Seed. Others, to answer this End, will draw Bushes through a Hurdle, and afterwards draw the same Hurdle over the new-sown Clover-seed. In any of these Forms Clover-seed seldom ever fails of growing into a full Crop among Wheat, by Reason the Earth is in the richest Condition

dition for a Wheat-crop ; and therefore a Farmer may depend on having good Success this Way, if Accidents of Weather do not hinder it. But, before I quit this Article, I think my self necessarily obliged to take Notice of one great Inconveniency that attends the Sowing Clover-feed among Wheat; and that is, In case a hot Summer is attended with frequent Showers of Rain, the Clover and Wheat is apt to grow luxurious, to that Degree, that the Clover, being thick and long, shades the Wheat-roots so much, and lodges so much Water in it, as to cause the large Stalks of such Wheat, with its heavy green Ears, to fall down, and be laid before it is ripe, and then the Consequence sometimes is the Loss of a valuable Crop, in a great Degree. However, where Clover is sown among Wheat that grows in poorish Ground, the Danger is the less; and therefore I know that many Farmers boldly venture to harrow Clover-feed in among Wheat in the Manner I have before mentioned, where their Land is of the gravelly, chalky, or sandy Sort ; I mean, where there is a Mixture of Loam enough among either of them, to make them be called a gravelly Loam, a chalky Loam, or a sandy Loam ; for a naked Gravel, Chalk, or Sand, is an improper Soil to sow with Clover-feed.

The Way and Method that Farmers take to sow Clover among Barley. — When Clover is to be sown among Barley, the Management of sowing it is different from that of sowing Clover among Wheat ; for, after the Barley is sown and harrowed in, we sow our Clover broad-cast, and harrow it in only once in a Place, and it is done withal, till the Barley is to be rolled, which commonly requires to be done in about a Fortnight or three Weeks Time. This is the most general Way of sowing Clover among Barley, because the Harrow Tines hale and cover the Clover-feed better at one Harrowing, than

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than more ; for, if two were to be given it, it would be apt to bury this small Seed. Others refuse this Method of sowing Clover, and only sow the Clover-feed just before the Barley is rolled, in order to keep the Clover from growing too luxuriant, and by that Means getting such Dominion over the Barley-crop, as to spoil or greatly damage it ; which is often the Case where Clover is sown with the Barley, and a wet hot Summer succeeds, especially where the Clover-feed is sown in a rich Soil ; which Misfortune is prevented by the late Sowing of Clover-feed till the Barley has first got high enough to become its Master, and keep its Growth in low Order all the rest of the Summer. This is a pretty sure Way to secure a Barley-crop from this Damage, because, as the Clover-feed is sown and only rolled upon the Surface, it requires more Time to take Root, than when it is laid deeper by the Harrow-Tines ; so that by late sowing it, and only rolling the Seed in, the Barley-crop is never hurt by the Clover ; and, indeed, this is a Matter that deserves Consideration ; for, suppose a poor Farmer had most of his Rent depending upon his Barley-crop, and this Crop should be half lost, merely by the Means of his sowing Clover-feed when his Barley-feed is sown ; What a Loss must this be ? I have known this very Case befall a Farmer in *Hertfordshire*, who rented a very large Farm, and sowed, I believe, thirty Acres of Barley, mostly with Clover-feed, that, by the frequent Showers of Rain that followed the Sowing, brought on such a rank Growth of the Clover-grass, as made it destroy great Part of the Barley-crop ; and, as the Farmer was then but weak in Pocket, it had like to have broke him. But this is not altogether the ill Consequence of Harrowing in Clover-feed with the Barley-feed. There is another attending it at Harvest, that is, when the Clover-grass has got into a very rank

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rank Growth, it is apt, after Mowing, to retain Dews or Rains, to that Degree, as to hinder the Barley from drying; and, if Barley is not got in dry, then in Course there will a short Price attend its Sale at Market. To this may be added one more Loss that sometimes happens by this very Means to a Barley-crop, as when the Clover grows so rank among it, that it has acquired large Stalks, and that such large Stalks by the Bulkiness of both the Grass and Barley-crop cannot be got thorough dry, they are liable to damp the Barley in the Mow, cause it to look reddish, and sometimes musty withal; and then it very likely may be fitter to give Swine, than make Malt of, as has been the Case of many Farmers to my Knowledge: And I must confess myself to have been overtaken in this Manner; for where a Crop of Barley and Clover is rank of Growth, and a wet Harvest accompanies its Mowing and Getting in, the Clover has further added to the Misfortune, and has caused the Grain to sprout in the Mow; and then, where there is much sown, the Loss is the greater; for when it is in this Condition, and Barley sells cheap, the Maltster in Course refuses it, and then it often falls to the Share of Fowls, Horses, or Cows, or Swine. Wherefore I have this to propose, that it would be a safer to sow Clover-seed in two different Manners among Barley, than to sow it all one Way; that is to say, if half a Barley-crop had Clover harrowed in with its Seed, and the other half had Clover rolled in when the Barley has grown high enough for the Purpose. In either Form we commonly sow ten or twelve Pounds on each Acre of Land; not but that even three or four Pounds of this small Seed are sufficient to furnish one Acre of Ground with a plentiful Crop of its Grass: But, to allow for Accidents, there ought to be no less than ten or twelve Pounds sown. And

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to grudge Seed, on this Account, may prove the old Proverb true, *Lose a Ship for an Half-penny Worth of Tar.*

The good Effects of sowing Clover-feed among Barley-feed. — Barley-feed is assuredly the best Lent-grain to sow Clover-feed amongst, because, the Ground having been under a Preparation for the Reception of the Barley, by several Plowings and a proper Dressing, the Clover-feed will the more easily, and more certainly take the Ground, than when it is sown among Oats, or Pease, or Beans; because these three latter Seeds have seldom above one Plowing bestowed on them, and are sown without any previous Dressing, which gives the Clover-feed the less Chance of growing into a full Crop of its Grass.

The Way that Farmers take to sow Clover-feed among Oats. — To get a Crop of Oats, there is seldom, as I said, more than one Plowing given the Ground for the Reception of this hardy Seed. But, when two are allowed, it is commonly done to prevent the rampant Growth of Weeds that otherwise might grow to the Endangering and Choaking the Oat-crop, especially in a wet Summer; and, when two Plowings are thus given the Ground, the Clover has the greater Chance of taking it; for this Seed affects a fine Earth, and refuses to grow in Plenty where the Surface is hard and rough; for which Reason many Farmers lose their Hopes of enjoying a full Crop of Clover, when its Seed is sown on Oats on only one Plowing of the Ground; and, as there is this Risque attending the Sowing of Clover-feed on one Plowing, it is the Practice of some Farmers to venture the Sowing of only six Pounds of this Grass-feed on one Acre; and, if it takes, well and good; and, if it does not, they are under no great Concern, because the Loss of the Seed is not much; but, if a tolerable Crop should

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should succeed, it will serve to bait Sheep or Horses in, or to feed Cows or Hogs with in the Beginning of the Summer, till a better Crop of Clover elsewhere is fit to turn into ; and then a Fallow of the same may be made by plowing up such a thin Crop of Clover Time enough for getting the same Land into a Tith for sowing it with Wheat in *September* or *October*. But where a Farmer has an Interest to get a full Crop of Clover, by sowing its Seed among Oats, he ought, without Fail, to give his Ground two Plowings early enough, that it may have Time to lie and sweeten by the Frosts, and get fine and hollow, the better to receive and lodge the small Seeds of Clover, and bring all, or most of them, into Growth. And indeed there is this Conveniency and Assurance attending sowing Clover-seed among Oat-seed : As the Land is not dunged for the Oat-crop, there is little or no Danger of the Clover getting so rampant, as to hurt the Oat-crop. On the contrary, the Sowing of Clover-seed among Oat-seed will improve the Oat-crop, by shading its Roots in a dry Summer, and causing the Oats to run into a large Straw and Ear. But this is not all the Benefit of sowing Clover among Oats. There are two more : One is, That the Fallow, or third Year, is employed by having a Crop grow, where there usually is none ; and, tho' a Crop of Clover-grass is thus got, it is so far from damaging the Land, that, if it is a full one, it may greatly improve it, 'by feeding it with Sheep, and folding them on the same as it is eaten down : Hence it is, that by this Means a *Chilturn* Farmer stands a good Chance of Dressing his Land for a Wheat-crop in a very cheap Manner ; for what the Sheep can get on a Common, and afterwards in the same Day in the Field of Clover, they will go with full Bellyfulls into the Fold, and leave every Morning great Quantities of Dung and Stale

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behind them, that will not only vastly enrich the Ground, but fat them in some Degree at the same Time, as is often done by some of our best Farmers to their great Profit. The other Benefit is also not a small one ; for by sowing Clover-feed among Oats, if there happens to be a full Crop of Clover, it will become a great Improvement to the Oat-straw, by rendering it almost as good as ordinary natural Hay ; and the rather, because, in case the Oat-straw is damped by the succulent Stalks of the Clover, it will not suffer like Barley or Wheat, or Pea-straw, on account of its hollow and dry Nature ; for Oat-straw is therefore less subject to be damaged by Wets, than any other. But it may be objected, that, as the Clover-feed is harrowed in with the Oat-feed, a wet Summer may cause it to grow so rank, as to cripple the Oat-crop. To this I answer, That, if this should happen, the Loss will not be so much in an Oat-crop, as a Wheat or Barley-crop, and therefore this Risque may be dispensed with ; and the rather, because such a Misfortune rarely, very rarely befalls an Oat-crop. And, where a Farmer has not a Conveniency of sowing Clover when the Oats are harrowed in, he may sow this Seed afterwards, just before the Oats are rolled, and thus roll them in upon the Surface ; and if too dry, or too frosty Weather does not follow, a good Crop of Clover may be obtained this Way ; but there is certainly a greater Risque attending such late Sowing, than when the Clover-feed is harrowed in, because it lies shallow, and thereby exposed the more to suffer by Frosts, and Droughts, and Insects ; yet I know it is the Opinion of some Farmers, that Rolling in Clover-feed is the safest and most profitable Way, because, say they, this minute Seed, this Way, is not in that Danger of being buried, as it is when it is harrowed in. But, with Submission, Experience,

rience; in the fullest Manner, proves the contrary; for as Clover-feed is by most judicious Farmers harrowed in once in a Place among Oats, it is sheltered, and, in a great Degree, protected against the several Incidents of Damage attending the first Shoot or Sprout of the Clover-feed; for here the Seed is all covered, and being assisted on all Sides, it runs into a first strong Spire and Root, sufficient to withstand any small Frosts or Droughts, and grow out of the Worm, Fly, and Slug's Way with Expedition. Whereas when Clover-feed is only rolled on a rough, sowe, hard Surface, that commonly is allowed an Oat-crop, the Seed lies a great deal longer before it can get a strong Root and Spire, and therefore grows slow and weak, and the more exposed to the Damage of such Accidents.

Of Sowing Clover-feed among Pease. — This is sometimes done, though not so often as it is amongst Wheat, Barley, and Oats, because there is more Hazard attending the Sowing of Clover-feed among Pease, than amongst those three Grains. The Reason is, that Pease, after they have grown to a sufficient Height, fall down, and afterwards run into a horizontal or spreading Growth; and, if they are a large full Crop, they will be apt to smother and kill the Clover, though it had like to have been a full Crop, if it had not been for such a Cover. However, as *Chilturn* Farmers are obliged to sow their Land every fifth Year, with Pea-feed, by Way and for the Sake of Change of Seed to the Ground, they are necessitated to sow Clover-feed among Pease, in order to get this Grass-crop growing on the fallow Ground, that otherwise might lie idle; for our *Chilturn* Farmers are forced, by the usual Covenant of their Lease, to leave the Ground fallow every third Year; nor does it lie less fallow for a Clover-crop, because this is deemed an Inriching and not an Impoverishment to the

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Ground.

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Ground. When Clover-feed is to be sown among Pease, it is to be harrowed in at the same Time the Pease are sown ; for this Grain will not admit of sowing Clover among it so late as to be rolled in when the Pease are rolled ; for, by such Sowing, the Pease would have the greater Power to kill the Clover, while it is, by such late Sowing, in an Infant Growth, when the Pease are under a forward and older Growth. And, when a Farmer is to sow Clover-feed among his Pease, he ought to sow the more Seed here than among any other Grain, that the Clover, by such thick Sowing, may be the better enabled to withstand the Cover of the Pease ; for, notwithstanding the Danger of such a Cover, it sometimes happens, that a very good full Crop of Clover is got this Way. And, although it is a hazardous Way of sowing Clover-feed among Pease, yet it ought not to discourage the Attempt, where it is likely to take ; for, what is the Hazard of a Miscarriage, compared to the Chance of getting a Crop of Clover, that may be, and often is, of more Worth to a Farmer, than either a Wheat, Barley, or Oat-crop ; which I pretend to make appear, by reckoning what a full Crop of Clover-grass was worth in the Year 1743, and a Crop of Wheat, or a Crop of Barley, or Oats, or Pease was worth at that Time. Wheat was sold at *Michaelmas* for less than Three Shillings a Bushel ; that which would fetch fourteen Shillings a Load, as we call *five Bushel* in *Hertfordshire*, must be the very best of Wheat ; and, I will suppose, that there were gotten off each Acre of Land Thirty Bushels one Acre with another : Then the Amount of such an Acre of Wheat would be at that Price Four Pounds Four Shillings. But, after Plowings, Dressings, and Rent, with other incident Charges, are deducted out of that Sum, there will hardly be Twenty Shillings left for the Farmer.

Farmer. Whereas a full Crop of Clover-grass will produce three Loads of Hay, and, as each Load is worth Twenty-five Shillings, the whole first Crop will amount to Three Pounds Fifteen Shillings, besides a second and third Crop of the same Grass the same Summer, if it happens to be a hot rainy one. But I will reckon no more than the Money for the first Crop, the last one or two will be more than sufficient to defray Rent and all other Charges of this Clover-crop; and then there will remain clear, into the Farmer's Pocket, the Sum of Three Pounds Fifteen Shillings for one Acre of Clover-grass got off the Ground in a Fallow-season this Year 1743, which was one of the most propitious Summers, that ever I knew, for causing the biggest Crops of Clover; for I had, it was judged, as much, or very near as much Clover-hay at a second Mowing, as I had at the first Mowing: Five or six Loads in all off one Acre at Twice, and so in Proportion for a Crop of Clover after other Grain, for this Clover-crop, here mentioned, followed an Oat-crop that the Seed was sown among.

Of Sowing Clover among Horse-beans.—This is not so commonly done as in the last Way, because we do oftentimes give Land two Plowings for a Pea-crop, but seldom ever above one for a Bean-crop; therefore, Clover-feed has the less Chance to take among Beans; for, if we were to plow twice for a Bean-crop in our *Chilturn*, it might do more Harm than Good, by making the Land so fine and hollow that the Beans could be hardly able to stand upright throughout the Summer, and likewise give the Sun and Air an easy Entrance to their Roots for drying them too much; for a Bean loves a stiff Earth, and a moist Root: However, as we in our stiff Loams sow sometimes clear Beans, and sometimes, what we call *Half-ware*, that is, Pease and Beans together, we venture to harrow
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in Clover-seed at the same Time, and by Chance come by a good Crop.

Of Sowing Trefoil, Ray-grass, St. Foyne, and Lucerne Grass, in the Random or Broad cast Way.— And first, as to the Sowing of Trefoil-feed: This Seed is sown by some in the Hull, by others naked. I believe I may say throughout *Hertfordshire*, it is sown in its black Hull, and the rather, because the Seed is thereby in some Measure, defended from the Damage of Frost, Worms, Wet, and Droughts, which the naked yellow Seed is much more exposed to. In either Shape it is harrowed in sometimes, and sometimes it is sown over the Ground and rolled, or left to take its Chance without rolling, for this Seed is most apt to grow. If it is to be sown in the naked Shape, twelve Pounds are sufficient to furnish one Acre with a Crop of its Grass; if it is sown in the Hull, two Bushels are but enough to sow, for getting a Crop of it on one Acre of Ground. It is commonly sold for a Groat a Pound naked, or Eighteen Pence a Bushel in the Hull; and when this Grass has once taken the Ground sufficient to stand for a Crop, a Farmer may enjoy it several Years without being at the Charge and Trouble of resowing it, because this Seed, more than any other Grass-feed, is apt to shed, though it is eaten off by Cattle; and much more so, when it stands to be mown for a Crop of Hay, for then there is no such Thing as preventing this Grass from scattering its Seed; which it will do in so plentiful a Manner, that, though the same Ground is plowed two or three Times after the Trefoil is got off, for a Wheat-crop to follow, there seldom fails of being rather a better Crop of Trefoil or None-such Grass the next Year after the Wheat-crop is got off, than there was the first Year after Sowing it. And, indeed, although I seem to write on the Aptness of Trefoil-seed to grow

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grow as a Benefit to the Farmer, yet it sometimes happens otherwise ; that is, when such a Lay of this Trefoil is plowed two or three Times, and dunged well for a Wheat-crop, the Shed-feed has come up among the Wheat-crop, and choaked it ; and where the Ground is got into the finest and richest Order for a Wheat-crop, there is the greater Danger of this Disaster ; which puts some *Chilturn* Farmers on their Guard to prevent it ; and to do so, they give such Trefoil Ground only one Plowing, and harrow in the Wheat-feed, and then it is delivered from any such Danger ; for, by this only one Plowing, the scattered Seed cannot force its Sprout through the inverted Grass Turfs. Trefoil-feed was formerly sown more than Clover ; but, as Clover has been found to be more profitable, less of the former, and more of the latter is now made Use of ; yet it is the Practice of many Farmers, at this Day, to sow Trefoil and Clover together, that the Trefoil may so qualify the Clover, as to prevent the Swelling, that Clover alone often occasions ; and proves fatal to Cows and Sheep, especially when the Trefoil is thus sown in a Mixture with Clover ; the Proportion of Seed is one Bushel of Trefoil-feed in its Hull, and six Pounds of Clover-feed to one Acre, both harrowed in at one and the same Time only once in a Place. *Secondly*, as to Ray-grass : This artificial Grass has some good Qualities belonging to it above others, as its being the most early Sort of either Clover, Trefoil, or *Lucerne*, and therefore is sown by many on this very Account, that it may come in the Spring-time for an early Bite to suckling Ewes and their Lambs, and to Cows and Oxen ; for a green Subsistence, at this Time of Year, is very valuable to Farmers, especially when their Hay is exhausted and eaten up ; which sometimes is the very Case after a long, hard Winter ; then it is that this
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Ray-grass stands the Farmer's Friend, and not only prevents the Starving of his Sheep and Lambs, but helps to fat them in the Beginning, preparatory for their further Increasing in Flesh, by the Help of their After-feeding on Clover, Trefoil, or *Lucerne* Grass. Also milch Beasts are, by its early Shoot, brought to give large Quantities of Milk in the Fore-part of the Summer, when Calves, Butter, and Cheese sell for the most Money. This Seed is sown to the Quantity of one or two Bushels on an Acre of Land, to be sown broad-cast out of a Man's Hand, and harrowed in once in a Place with Barley, or Oats, according to the common Way of sowing it. But Care should be taken not to sow this Sort of Grass on stiff, or clayey Loams, because, when it grows in this Soil, it is very hard to be destroyed, but will be apt to come up among the Grain that next follows its Crop, and damage it; for it is the Opinion of some, that, where Ray-grass grows some Years in Ground, the same will in Time degenerate into a *Wild-Bennet*, or *Twitch-Grass*; and then when Arable-Land is infected by either the white or black *Bennet* Grass-weed, the After-crops of Corn are in Danger of being spoiled by it, as too often is the Case. Therefore Ray-grass Seed should be sown on no other Soil than a gravelly Loam, a sandy Loam, and a chalky Loam, or some other of the dry short Sorts; for, in these Soils, it is easily destroyed.

The Way that Farmers take to sow St. Foyne-feed.
— Notwithstanding what has been wrote by me, and other Authors heretofore; yet any Person who strictly examines, and remembers, what has been said about Clover, Trefoil, Ray-grass, and *Lucerne*, will find, that I have in this Book advanced several new Matters, never before published, relating to these artificial Grasses; and, how serviceable such new Improvements are, I leave to my Readers Decision.

cision. This I know, that the Sowing of artificial Grasses comes every Year more and more into Practice, for the Sake of the Profit that arises therefrom. Any Person, that travels between *Uxbridge* and *Amer sham*, may see so many Clover Cocks or Stalks, as to convince him it is the Farmer's Resource ; for, in Winter, when all green Food fails him, he returns to his Clover-cock, as his Magazine, and therefrom he supplies his Horses, Cows, and Sheep with Food. And it is with Clover-Hay, Trefoil, *Lucerne*, or *St. Foyne*-Hay, that either Horses, Cows, or Sheep may be fatted in the Winter, if Corn is given besides. But to come to my intended Purpose of shewing the Farmer's Way of propagating *St. Foyne*-grass : This Grass is, by most People, called *Cinque-foil*, and, with us in *Hertfordshire*, we call the *Trefoil*, or *Nonesuch*-grass, *Cinquefoil*, without considering, that *St. Foyne*, in *English*, is *Holy Hay*, *Cinque-foil*, *five-leaved Grass*, and *Trefoil*, *three-leaved Grass*. However, to wave Niceties on these Accounts, I have to observe, that, if *St. Foyne*-seed is not sowed on a proper natural Soil for it, the Crop will never answer Expectation. I remember, when I travelled through *Norfolk*, a Farmer told me they tried to get a Crop of *St. Foyne*, in their sandy Land, but they could not do it, to any Purpose, because they found that this Grass, in such a loose Earth, run down so freely and so deep, that it spent itself in Root, so that the Stalk and Head were of little Value, which put them upon trying what *Lucerne*-seed would do in such a Soil ; and, upon Trial, found it to answer better, as I shall by and by enlarge on ; and here have farther to observe, that *St. Foyne* refuses to thrive in some other Soils besides sandy, as in all clayey Soils, in wet, flat, loamy Soils, in a shallow Chalk, that has a hurlucky, stony Bottom, and in loose
O Gravels,

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Gravels, this excellent, sweet Grass, I aver it for Truth, will not prosper ; which leads me to take Notice, how erroneously a certain Chamber *Georgic* Philosopher has wrote on this Grass ; who in his Book, intituled, *A Compleat Body of Husbandry*, page 242, affirms, That a clayey Soil is a proper one to sow *St. Foyne*-seed in, without any manner of Exception ; and therefore I take his Meaning to be, that, though this Seed is sown and harrowed into an intire clayey Soil, it will prosper. Now this I deny, for, as all Clays are of a wet, or, at least, of a very cold moist Nature, they are disagreeable to *St. Foyne*, by causing its Roots to rot, after they have made a little Progress into their Funds. Hence it is, that most Farmers have taken the Hint, and been warned by the Mistake of some of their Predecessors, to forbear sowing *St. Foyne*-seed in intire Clays, or stiff, wet Loams, lest they fall into the same Loss as they did, who, knowing no better, sowed this Seed in Clays, or stiff wet Loams, and lost their Money, Time, and Labour, by so doing. Yet I will go so far with his Assertion, That *St. Foyne* will grow in Clays, as to say, that in Case a chalky Bottom has a top *Stratum* of Clay, about four or six Inches deep, lying next under a Surface of Mould or Loam, three or four Inches thick ; I say, here *St. Foyne* may grow and prosper for several Years together, because this Grass, like *Lucerne*, has longer Roots than others, which are of such a Length, that they will in the second Year (if not the first) of its Growth reach the Chalk, and then they are out of Danger of being damaged by the Clay ; for such a *Stratum* of Clay I will suppose to lie drier, than where the whole bottom Earth is an intire Clay ; and therefore the Wetness or Moistness of such a *Stratum* of Clay cannot much hurt the *St. Foyne* Roots, as I have experienced in a Field that I at this Time rent of our Parson, which consists

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sists of this very Soil, at least one Part this inclosed Field is of it, and wherein I have sowed *St. Foyne*-seed, to good Purpose. But to assert, without any Exception, that a clayey Soil is proper to sow *St. Foyne*-seed in, may chance to lead those into a great Mistake and Loss, who tack their Credulity wholly to Book Advice, without consulting the live Voice ; which I would have none do, because, as the wise Man says, *In much Counsel, Wisdom is established* ; and this especially, where an Author has not had a long Experience of his own, as well as being in some Measure a Judge of what he writes of from the Experience of others. But to return to my Subject : I likewise assert, that *St. Foyne* will not prosper in an intire loamy Earth that lodges Waters longer than ordinary, which many of the stiff Loams will do, that lie in a low flat Situation, and this for the same Reason I have before alledged : That such wet Bottoms will certainly rot the *St. Foyne* Roots, and disappoint that Farmer's Expectation, who vainly hopes to succeed in sowing this Seed in such a watery Soil. And so will his be, that pretends to enjoy a plentiful Crop of *St. Foyne* from Seed sown in a shallow chalky Surface, whose Bottom is a stony Hurlock : And this because, although the *St. Foyne*-seed may take and grow for a Year or two in such a shallow Soil, yet, when its Roots come to enter the Hurlock, it pines, and the Crop lessens and lessens till it is not worth the Farmer's while to let it stand any longer for a Crop, as the following Case will prove and justify what I here assert to be true.

A Case proving that it is not worth any Person's while to try to get a St. Foyne Crop, where a shallow Chalk lies near a hurlucky stony Bottom. — On this Account there have been, I believe I may say, many Attempts made, and have failed the Owners Hopes. One of which I shall here take Notice of,

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that was actually tried in the Parish of *Ivinghoe* in the County of *Bucks*, where lie great Quantities of chalky Lands, some good and some as bad. Of this worst Sort, there were, I think, about a hundred Acres inclosed some Years ago, in order to improve it, and make the Land turn to a better Account, than let it lie altogether as a Common for Sheep : To this Purpose, there was not wanting what might be called good Plowing, and every thing else as I am informed, that was necessary to make this Piece of Ground fit for the Reception of *St. Foyne*-seed ; and accordingly it was sown with *St. Foyne*-seed, in great Hopes of Success ; for, if a full Crop of this Grass had been got off this Ground for five or six Years together, it would have paid the Owner very likely three Pounds at least each Year, every Acre of it. A fine Improvement of that Ground, which before, while it lay under a natural Grass Turf, though inclosed, was not worth above three Shillings an Acre, and hardly that. But alas ! this laborious and expensive Attempt, to get a Crop of valuable *St. Foyne* here, did not answer ; for, as soon as the Roots of the *St. Foyne* got down to the white stony Hurlock, the Stalks and Heads of it complained, and plainly discovered, that the Roots could not make a sufficient Entrance and Descent into this hard Bottom ; which, by this Means, exposed them to the Power of Droughts in hot dry Summers, and then the Crop is lost ; for a Crop of *St. Foyne*, like *Lucerne*, enjoys this superior Benefit to all other Grasses, both natural and artificial, even that, in the hottest and driest Summer, this Grass will become a full Crop, when others are parched and burnt up, because it strikes its Roots so far down into a chalky Soil, as to be beyond the Power of the Sun and Air to dry them so much as to prevent their Forcing on a full Crop, where the Land is
under

under a good Management. This Case may, perhaps, be serviceable to those who at this Time are plowing up Downs in *Wiltshire*, where there is a great deal of this Sort of Soil, which, if sown with *St. Foyne*, may occasion no little Loss of Time, Labour, and Money; and therefore such Owners should first well consider the Nature and Depth of their Earth, before they make such an Attempt. If it be a Chalk, or a Maume, or if the Ground is not an intire Chalk or Maume, but has a Mixture of Loam or Sand with it, it may answer very well, as Thousands of Acres of this Sort do; and so others, as your flaty, or red Earth, mixed with Chalk, Maume, or Loam, may likewise turn to good Account if sown with this Seed, as being the greatest Improvement that such a Soil can be brought under; and therefore there are few of the prudent Sort of Farmers, who possess a dry, lean, chalky Soil in inclosed Fields, but what put them to this Use, and reap no little Benefit from it. I know several large Farms that have not three Acres of Meadow Ground belonging to them, some never a one; which confines their Occupiers to keep hardly any Cows, or from supporting their Horses or Sheep in the best Manner in Winter with natural Hay. If a Field of ten or twenty Acres has a chalky or other proper Earth, it may be sown with *St. Foyne*-seed; and, if there is Ground enough near Home, Cows may be fed on its green mown Stalks and Leaves most Part of a Summer under Cover, and afterwards in a Field, on its After-Meath, and in Winter on its Hay. Thus Thousands of Farms have been furnished with this *St. Foyne*-grass and Hay, that, before, had hardly any Grass or Hay at all. But I shall forbear to enumerate all the Advantages of *St. Foyne*-grass and Hay, as being an Account too long

long to insert here; and therefore shall hasten to the Sowing this Seed.

To sow St. Foyne-seed in the Broad-cast and Drill-way. — This first Method is pursued by all our *Hertfordshire* Farmers, I believe I may say at this Day, because the Sowing this Seed in Drills is unknown to them as yet; and what they do not see, they are the most averse (I am of Opinion) of all People to imitate. However this Seed is propagated to great Success in both Ways of sowing it: In my Monthly Book for *September* (at Page 139.) I have given an Account how *St. Foyne-seed* may be sown in that Month the broad-cast Way, so as to obtain a Crop of it a Year sooner than when it is sown in the Spring-time, which is of considerable Advantage to the Owner; but, as it is most common to sow this Seed in *March* among *Lent-grain*, I have to observe, that, when Ground is to be laid down with *St. Foyne*, the Seed of it is sown either with Barley or Oats. If with Barley, the Earth is to be plowed twice or thrice in all, till it is got into a fine Tilth; for, unless it is under this Qualification, it is in vain to sow and hope for a full Crop of *St. Foyne*. Now, when the Land is thus prepared by Plowing, it ought to be well dressed with short Horse-dung, or with Rags, or with Soot, &c. and having a right sound Sort of Seed ready, after the Barley has been harrowed in, the *St. Foyne-seed* is to be sown twice in a Place broad-cast as I have in my former Works shewn; and when it is all sown, it must be harrowed in but once in a Place, and it is done withall, till the Barley is afterwards rolled; for this Purpose four Bushels of Seed is our common Allowance for one Acre; but he, that sows five, is surer of a Crop. There is a great deal more might be wrote on this Seed, its Grass and its Hay; but, as it would swell this Volume too much, I must desist, and shall only touch
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on its being sown in the Drill Mode, which this Grass agrees with extraordinary well, I may justly say, much better than when it is sown in Broad-lands, because, when it grows in Broad-lands, the Twitch, or Couch-grass, and other Weeds are most apt to grow among it, and choak it ; for, by these, many Crops of *St. Foyne* are spoiled, or, at least, caused to be of a short Duration, or to grow in such a thin Manner, as to greatly lessen the Owner's Interest ; and this, because the Weeds cannot be houghed from the Grass, which leads me to consider some of the Advantages that accrue from sowing this Seed in Drills. One is, by Drilling *St. Foyne* Seed into chalky, or sandy, loamy, or in a dry loamy Earth, Manure may be saved ; for when it is sown in this Form, the Earth that falls in, or is laid on the Drill, and what is laid to the drilled *St. Foyne* afterwards by the Hand-hough, will be sufficient to assist it Time after Time, for enabling the Roots to throw up a large Crop, and this for sowing only one Bushel on each Acre in Drills, at twelve or sixteen Inches asunder, sowed out of either the Three-wheel, or Pulley-Drill-plough ; by which Means, this profitable Grass will grow into very large strong Stalks, and Heads, or Flowers, in the driest Summer ; but if such a Crop is assisted, once in six Years, with the Manure of Soot, Peat-Ashes, Oil-cake Powder, Coal-Ashes, Cows or Hogs-Hair, or the like, there may the bigger Crops be expected ; for then the poor Earth of Chalks, which is commonly lean enough to be called so, will throw up very vigorous and large Crops, and, by the keeping down the Growth of Weeds, it will last twenty or thirty Years, when a Crop of *St. Foyne*, sown in the Broad-land Way, may be crippled and choaked by Weeds, so as to be worn out in less than seven, as I have been an Eye-witness of ; but the Account is too long to write in Particular of the
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many superior Advantages attending Crops of *St. Foyne*, growing in the Drill-way ; and, therefore, I shall proceed to what I have to write here on *Lucerne*.

How Lucerne is to be sown.—This Seed seems so much like Clover-feed, both in Bulk and Colour, that it is easily mistaken one for the other ; and, therefore, twelve or fourteen Pounds of this Seed are sufficient to sow an Acre of Ground in the Broadland Way ; and, when it is to be sown in this Mode, it is commonly sown among Barley or Oats in a proper Soil ; for, if that is not made a right Choice of, it is in vain to sow *Lucerne* ; which obliges me to write, that this Seed will not prosper, if it is sown in a Clay, wet Loam, Chalk that has a hur-lucky Bottom, or a rashy loose Gravel ; and, therefore, it is rightly sown in a good, stiff, dry, sandy Soil, where its large and long Roots may meet with free and easy Liberty to run down to get Part of its Nourishment lower than *St. Foyne* Roots, for the Roots of *Lucerne* run the deepest of all artificial Grasses whatsoever, so that the Seed of *Lucerne* must be sown in an Earth that will allow it such a Descent ; therefore a good Sand, or sandy Loam, that does not lie wet, or a dry intire Loam, or a gravelly, or a chalky Loam, are all of them agreeable Soils to sow *Lucerne* Seed in, and, if sown right, will prosper to great Profit, and pay, in some Years, more than a Crop of Corn, that is, when Wheat sells for half a Crown or three Shillings a Bushel, Barley for twenty Pence, Oats for eighteen Pence, and Pease for less than two Shillings a Bushel, as the Market Prices were in *October*, 1743, and are what I sold all these Sorts of Corn for in *Hempstead* Market at that Time : I say, when Corn sells at these Rates, a full Crop of *Lucerne*, *St. Foyne*, or Clover, pays better than an ordinary Crop of any of these Grains, or, if I say, a full Crop of them, I do

do not know that I exceed ; but, to be more particular on Account of sowing *Lucerne* Seed, I shall endeavour to shew, how it is propagated in the Broad-land Mode of sowing the Seed.

Of sowing Lucerne in Broad-lands.— The common Way of sowing *Lucerne* Seed is, by the Broad-cast of the Hand ; not that this small Seed is to be thrown out of the Hand by a Handful at a Time ; no, this is not my Meaning, it is to be sown by the two Fore-fingers of the right Hand and the Thumb, without the Touch of any other Finger. Thus, when either Wheat, Barley, or Oats are sown and harrowed in *for good* as we call it ; that is, when all the Harrowings are finished, necessary for the Corn-crop, then we immediately begin to sow *Lucerne* Seed, by holding it in a wooden Dish, or little Bowl, with the left Hand, and with the two Fingers and Thumb take a little at a Time up and sow it Broad-cast twice in a Place ; and when all is sown, then we harrow it only once in a Place, and it is done with till Rolling Time. Thus we sow Clover-feed, *St. Foyne* Seed, Trefoil-feed, and Ray-grass Seed, very often to a good Purpose ; but not to so good a one as when *Lucerne* Seed is sown in the Drill-way, either out of the Pulley or Three-wheel Drill-plough, as I shall shew by and by ; because, when this small Seed is sown in the Broad-cast Way, the Twitch, and other Grass, and Weeds are soon apt to get up, grow rampant, and in a few Years get the Dominion of the *Lucerne*. Thus after *Lucerne* has been sown, and takes the Ground so well as to become a full Crop, there may, perhaps, be great Quantities mown of it for two or three Years together ; but, after that Time, I have known it decay and lessen, till the Grass and Weeds have rendered it not worth growing any longer ; whereas, could such a Crop of *Lucerne* Grass grow clear of Grass and Weeds, it might last eight

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or ten Years, or more, well. I have known a red clayey Soil sown with *Lucerne* Seed, that had an upper *Stratum* or Surface of Loam, about six Inches thick, and it throve here very well, for three Years, and then declined, because the Grass and Weeds, and cold stiff Bottom, overcame it in two Years more, so as to oblige the Gentleman Owner to plow up the same Ground, and sow it with Grain, as before; for, when *Lucerne* Seed is sown in the Broad-cast Way, there is no such Thing as Houghing it to any Purpose; for, if an Attempt was made to do this, as we do Turneps, or Rapes, the Toll, as we say, would be more than the Griss; that is, the Labour would cost so much as to make it not worth the Farmer's While to get a Crop of *Lucerne* in this expensive Manner; which leads me to touch on Sowing *Lucerne* Seed.

Of Sowing Lucerne Seed in Drills.—This is certainly the best Way of sowing *Lucerne* Seed, in order to get a full Crop of it for several Years together; for, in this Way of Sowing it, it may be made a very durable Crop, because, by drilling in the Seed, the Ground about it may be kept clear of Weeds and natural Grass. To this Purpose the sandy Loam, the gravelly Loam, the chalky Loam, and an intire warm dry Loam; if *Lucerne* Seed is sown in any of these, the Ground should be first got into a fine Tilth, by several preparatory Plowings, for, unless it is in this fine loose Condition, it is a Folly to pretend to hope for a good Crop of *Lucerne*; to which I add, that, if rotten Dung was plowed into the same Ground in *November*, and left to lie till *January*, before it is plowed again a second Time, the Farmer would stand a good Chance of enjoying a fine Tilth in *March*, when *Lucerne* is to be sown as the properest Season of all the Year; and when the Ground is thus got ready for sowing this Seed, either out of the Three-wheel

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or Pulley Drill-plough, by the Help of a particular small Seed-roll, or Box made on Purpose for sowing this or Clover, Rape, Trefoil, or Turnep-feed, out of the same, the Ploughman may proceed and put his *Lucerne* Seed into the Hopper, out of which it will regularly drop after the Share has parted the Earth and made a Drill for the *Lucerne* Seed to drop into; which, if done by the Pulley-plough, is to be covered with loose Earth, that the two crooked short Irons, fixed at the Arse or hinder Part of this Plough, gather up and leave on the Ridge. But, if it is done by the Three-wheel Drill-plough, it drops the Seed out so soon and so low and narrow, that there is no Occasion (if the Earth is fine) to employ any Manner of Harrow to cover it; the Earth will fall of itself into the Drill on the Seed, and become a sufficient Cover for it. Now the Distance of the Drills may be, according to the Owner's Pleasure. The Seed may be drilled in six, eight, twelve, sixteen, or at twenty Inches Distance; but the best Distance of all others, I think, is twelve Inches, because here is no more Ground left for Intervals, than is necessary for employing a broad *Dutch* Hand-hough, in the Cleaning of them: I mean a Hand-hough about seven Inches broad, or a little more; and by keeping the Intervals or Interspaces of Ground between the Drills, clear of Weeds, the *Lucerne* will receive such Nourishment, as to grow into a fine Crop in the driest Summer, as I have seen it do. *Edward King*, Esq; is the ingenious Inventor of the Pulley-plough; and, although the greatest Part of this Summer, 1743, was so dry a one, that many People took as much Care of their Pond-water, as some do of their strong Beer, yet, I saw the *Lucerne* in Drills, twelve Inches asunder Knee-high. And it is at the same Distance, that this Gentleman sows his Wheat-feed, and hand-houghs between it, with the *Dutch*

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Hough as he does the *Lucerne*. But, if a Person thinks fit, he may drill in his *Lucerne* Seed, at eight Inches Distance, by the Three-wheel Drill-plough, that gives the Ploughman Leave, by the Straddle of the two Fore-carriage Wheels, to make Drills as narrow or as wide as he pleases; and, if the Drills are sown with *Lucerne* Seed, at eight Inches asunder, then the *Dutch* Hough should be made no broader than six Inches. And, if a Person thinks fit to sow *Lucerne* Seed in Drills without being at any Charge of houghing the Intervals, it may be sown in Drills at six Inches Distance, as some sow Wheat by this Three-wheel Drill-plough, and get excellent Crops by so doing, without houghing between the Drills of Wheat. But there is this Difference between Wheat and *Lucerne*, Wheat is only an Annual, *Lucerne* for standing several Years together in the same Place of Growth; and, therefore, he that would have a Crop of *Lucerne* grow in Perfection, should sow it in Drills, and hough it once or twice every Summer, and then he may expect it to grow high and with the strongest Stalks, especially if rotten Dung, Soot, Oil-cake Powder, Peat, or Coal-ashes, or other Manure, is duly and sufficiently applied to the Roots; for by the Help of Dung or Manure, and the Hand-houghings, a poor Soil may be kept in such rich Order, as to produce the greatest Crops of *Lucerne*. But there has been another Way attempted to get a good Crop of *Lucerne* Grass, and that was by Sowing this Seed in a moory boggy Land, lying contiguous to a River Side; and, to do this Feat, the Grass-ground was plowed several Times sown with Corn, preparatory for killing the natural Grass, and sowing the same Ground with *Lucerne* Seed: To this Purpose, the Turf was turned downwards, and Horse beans, I think, set in the same, which proved a great Crop. The next Time it was sown with Wheat, and it likewise

likewise proved a good Crop ; and then, by several After-plowings, the Land was got fine enough to drill in *Lucerne* Seed, which grew tolerable well the first Year, and, I think, the Second ; but afterwards dwindled away ; so that the Ground was left to become a Sward of natural Grass again ; for *Lucerne* would not do here, because, as it was supposed, the Water, that always lay in this Bottom, was of so cold, sharp, and hungry a Nature, as to feed upon, and starve the *Lucerne* Roots, or rather chilled and killed them ; for the Water, that proceeded from the Springs that were situated near the Place where the *Lucerne* Seed was thus sown, is of so sharp a Nature, that most People, who know it, refuse to water their Horses at the Brook that proceeds from those Springs, lest it gripe them. But had the Spring-water rose from a chalky, or other fat warm Earth, I am apt to believe, the *Lucerne* would have grown into large and durable Crops ; for, according to History, *Lucerne*, in *Turky*, and other hot Countries, grows and flourishes in their watery Soils. By this Drilling-Husbandry much Seed is saved ; for, though fourteen Pounds of it is but enough to sow an Acre of Ground in the Broad-cast or Random-way of Sowing, yet, by drilling the Seed at twelve Inches a-part, less than half the Seed is sufficient, even two or three Pounds may do. There are several great Advantages attending the Sowing of *Lucerne* Seed in Drills, more than when it is sown in the Random-way ; for, when *Lucerne* grows in Drills, it is easier mowed than when it grows promiscuously, and made either for Hay, or to give Cows and Horses it green under Cover. If it is given as green Food, it will produce Abundance of Milk in Cows, or fat their Horses and Oxen for Market, free of that great Danger which Horses, Cows, Oxen, and Sheep must be under that feed on it in the Field ; for green *Lu-*
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cerne, like green Clover, is very apt to hove and swell this Sort of Cattle, till they die. And it is by such mowed *Lucerne* Grass, that Plough and Cart-horses may be fed, in the Stable, great Part of the Summer, and work on only the Feed of this satiating Grass, whose Stalks, being very large and succulent, will go a great Way in the Feed of Cattle. One Acre of well-planted *Lucerne* Grass will, in this Manner, feed two large Cows for several Months, in the Summer Time, and likewise two Horses, provided they have Corn given them now and then besides. I have sown *Lucerne*, Clover, Ray-grass, Trefoil, and St. *Foyne*, in my own Grounds, and can say, that it is surprising, how this *Lucerne* Seed should be able to make so deep a Root the first Year, as it does, even to six Inches or more. And, I am persuaded, that, if Thousands were sensible of the many Advantages that might be reaped from Sowing this excellent Seed, they would quickly fall to work and sow it in their poor, sandy, and other lean Earths, and thereby be enabled to keep Milch-Cows, where they could keep none before, suckle House-Lambs, sell more Corn by feeding their Horses with *Lucerne* Grass and Hay, and fat any dry Beast with it, either in Summer or Winter, and this in the cheapest Manner possible; for this *Lucerne* will bear Mowing twice, if not three Times in one Summer, and yield the first and second Time two or more Loads of Hay off each Acre of Ground. For which Purpose I furnish either of these Drill-ploughs to any Part of *England*, *Ireland*, or elsewhere, for my being paid only for my Labour, Time, and Care, in ordering their Making, seeing them finished in a compleat Manner, and getting either of these Ploughs to the Waggon, or Ship, as the Person's Conveniency best serves. The Three-wheel Drill-plough and Horse-break is another

other Person's Contrivance, made and sold, by a Plough-maker and Smith, who live in another Part of the Country.

C H A P. X.

Of Rolling Corn Grounds.

THE Benefit of Rolling Corn Grounds.— In Hertfordshire, and in most Chiltun Countries, the Rolling of Corn Lands is so necessary, that though a Farmer may plow his Ground, as it ought to be plowed, dress it, and sow it in a Workman-like Manner; yet, if after it is sown with Corn, this Operation of Rolling the Ground is not performed, he may lose great Part of his Crop for Want of it: To prove which, I have First to say, that, where a chalky Soil is sown with Wheat, Barley, Oats, or Pease, either in the Two-bout-ridge Form, or in Broad-lands, this Earth will be in such a loose Texture of Parts, as to let either the Frost, the Sun's Heat, or the cold Air, or the washing Rains, too freely to the Roots of the Corn, and very likely do the Corn-Crop a great Damage. Now Rolling such Ground is the only Remedy, to prevent these Mischiefs; because the Weight of the Roll closes the chalky, porous Surface, and so binds it, as to let these Extremities of Weather to the Roots of the Corn in a gradual Degree; and yet, for all the Farmer's Precautions, and diligent Endeavours on these Accounts, the Power of Frosts, Winds, and Heats sometimes overcomes all his Art, and hurts his Crops: For Example, in the great Frost of 1739-40, all those chalky Lands, that lay most exposed to the North and East Winds, were so shattered by the Frosts
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and Winds, that the Farmer had hardly his Seed again, in return for what he had sown for a Wheat-Crop; because the Frosts, in the first Place, loosened the top Earth, so much, as to give the Winds an Opportunity to blow it from many of the Corn Roots, and then the Frosts got such an easy Access to them, as to kill most of them; and this, notwithstanding the Benefit that the rolling Part communicated to the Corn-Crop. If then Rolling the Corn-ground will not secure the Roots of the Grain, from the Power of extreme Frosts, Winds, Heats, and Rains; how much less will it be able to withstand these Violences of Weather, if such Ground was not rolled and closed at all. Therefore, the Farmer, that does not roll his Corn Ground after Sowing, will, in Course, suffer a great Loss; and the more, if these Extremities of Weather happen to be very violent. Thus, in sandy Lands, Wheat is the most exposed of all other Grain, to the Fury of Frosts, Winds, Rains, and Heats; because this, as well as chalky Soils, is the loosest of Earths. Indeed, where a Sand is of such very loose Parts, that it will not admit of the Growth of Wheat, the Danger is not so much in *Lent-Grain*, by Reason it is sowed in *March*, or *April*, and generally free of the Damage of Frosts: But, as Wheat lies all the Winter abroad, it often suffers, in these two Sorts of Soils, beyond all other Grain. And the most of all, where a Farmer sows these Soils of chalky, or sandy Loams, with Wheat, without any Dressing or Rolling; for then the Extremities of Weather seldom fail of destroying most Part of such a Crop, either in Winter, by Frosts, cold Winds, and Rains, or in Summer, by the violent Heats of a long dry Time. In this Case, Dressing and Rolling the Land stand the Farmer's great Friend, because the Dressing enables the Wheat Roots to take strong Hold of the Ground, and the Rolling helps

helps further to fasten the Earth about them, and keep out these aerial Violences. Therefore, whether, it be a Wheat, or *Lent-Crop*, that is set on these Soils, Rolling is one main Preservative of such a Crop. And where the Wheat is sown in two or three-bout Ridges, in these Earths, the Farmer, that he may the more effectually close the top and side Surfaces of such Ridges, draws his nine Feet long wooden Roll, athwart or cross these Ridges, whereby near three Parts of the Land in four are rolled. Some therefore roll their chalky, sandy, and loamy Corn Grounds, quickly after their being sown; others, not till *January, February, March, or April*, fearing the fatal Effects of *March* Winds, more than Frosts; for, if these blow the Earth from the Roots, they are exposed not only to the Frosts, that may happen in *March, April, and May*, but also, if they miss being hurt by them, the Heats may still dry them, so as to make them produce a bad Crop. For the Prevention of which, in our *Chilturn* Country of *Hertfordshire*, we seldom fail to roll our Horse-bean and Pease Crops, as well as Barley and Oat Crops, after the Corn-heads have shewn themselves above Ground. When Beans are about an Inch or two high, we draw the Roll over them to close the Surface, and new mould up their Stalks; which adds a Fertility to their Growth, as well as helps to keep out Frosts, Wetts, and Heats, from doing them much Harm. But where the destructive Slug is perceived to have taken a Pea Crop, and like to do them any great Prejudice, we roll them sometimes a second Time in the Night, or very early in the Morning, before the Slug has retired to his Cell, and thereby crush and kill many of them, often to the Saving of the Crop of Pease from being destroyed by them; and this we do, when Pease are several Inches in Heighth; and, though the Roll may bruise their Heads and Stalks,

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and somewhat impede and lessen the Pea-Crop by this Means, yet the lesser Evil is to be chosen ; and that is, rather to hurt the Pea-Crop a little, than to let the Slug, devour and ruin it. Not, but that I can prevent this Mischief without the Help of the Roll. And which shews the Efficacy and great Value of the Ingredient I can use on this Occasion, in Case the Slug takes a Pea-Crop after Rolling, as they often do by the Help of long rainy, hot Seasons, when the Pease are got such a Length out of the Earth, that, if the Roll were to be used now, it would intirely spoil the Crop ; then I say, the Farmer must passively submit to see his Crop of Pease, eat up by them, for Lime, Tobacco Dust, or Soot, in this Case, are not infallible Remedies ; because Rains may soon wash away their Efficacy, and the Breed of the Slug be renewed : But, if these Powders could effect a Cure and put a Stop to the Slug's Progress, yet the Charge of any of them would be so discouraging to most Farmers, that few, very few, would make Use of this Sort of Remedy, and, indeed, I never knew one that ever did. But my great Secret, and infallible cheap Antidote, will surely answer this End of destroying the Slug, or, at least, keep him from doing Mischief to the Pea-Crop, if it rains a Month together, after Application ; and it has this excellent Property besides, that, if Lime, or Tobacco Dust, Soot, or Ashes, are sown over the Pease, to kill the Slug, or prevent his Mischief, and a very hot, dry Summer should forthwith succeed such an Application, it may cause such a Remedy to be almost as bad as the Disease, by the Heat of the Sun's Assistance to the hot Nature of the Lime, Soot, or Dust, and prove a Means to burn up and ruin the Pea-Crop, which my Ingredient (that is easily come by, in all, or most Parts of *Europe*) will not do, let the Weather come how it will ; on the contrary, it will administer a
gentle,

gentle, gradual Fertility to the Crop of Pease, or to any other Corn-Crop whatsoever, or to young Turneps, Rapes, Flax, *Lucerne*, and many other Crops of Vegetables, in their infant Growth; so that, while it is killing or preventing the Slug's Mischief, it is, and will prove an excellent Manure to the Land, and not only do the present Crop a vast Service in all Weathers, but will likewise fertilise the Ground, so as to cause it to produce a good second Crop, in the following Year. Which leads me to intend, and publish hereafter, an Account of some other *Nostrum's*, that I am Master of, at this Time; in the mean While, I have further to observe, that, although I have been very particular before in writing on the Benefits of Rolling chalky, sandy, and loamy Corn Grounds, it remains for me to take Notice of the like Practice, that is commonly made Use of, in intire loamy, or gravelly and clayey Lands. On these, we *Chiltun* Farmers do not always employ the Roll, when they are under a Wheat-Crop; it is seldom done, but when we apprehend such Ground may suffer by Frosts, Wetts, Winds, and Heats: In this Case, many do roll their Wheat-Crop, whether it is sown in Ridges, or in Broad-lands, and this either in *October*, or *November*, or in *January*, *February*, or *March*; for the Roll must never be employed, where the Wheat is on a spindling Stalk; if it is, it is six to one odds, but it spoils the Crop, by bruising the Stalks: No, if it is done at all, it must be done, before the Wheat is on the Spindle; and when it is done, it may be drawn, the Length-way, over the Ridges, or cross them, as the Wetness, or Dryness, of the Ground indicates. So Barley Ground must be rolled with Discretion; for, if a Farmer should roll his Barley, when it just appears above the Earth, he may ruin his Crop by it, as many have done, and do to this Day, through their Ignorance. I have

known a Yeoman, that was brought up to the Plough from his Cradle, and who was afterwards Owner of a noble Farm, of a Hundred a Year, be guilty of this Mistake, several Years together, before he could see his Error; and then saw it with so much Detestation, that he proclaimed it almost every where, as a Warning to others: For it is plain, that, if a Barley-field was to be rolled, when the Barley is but just above Ground, the Clots of Earth, that the Roll would break, spread, and crush down on the infant Barley-Stalks, or Spires, would smother and kill many of them, so that they never could shoot more; and then the ignorant Farmer, that overlooks the Cause, complains of the Loss of great Part of his Barley-Crop, falsely imputing it to the Destruction of Frosts, Chills of Wetts, or Worms, &c. when the true original Cause is his Rolling the Barley-Crop too soon, and Smothering the young sprouting Spires or Blades; wherefore, a prudential Farmer will not roll his Barley-Crop, till it is two or three Inches high, at least; for then, if a Clot break on such a long Blade, the Root, by this Time, has got such Hold of the Earth, as to be able to repush out such a Blade again, and carry on its Growth, with the greater Vigour, by Means of such a timely Rolling. But, even here, it requires a particular Caution, a particular one I say indeed, for if a Medium is not observed between the two Extrems of rolling Barley too soon or too late, the Farmer may equally suffer on either Account; hence then I am obliged to enter another Caveat on rolling of a Barley-Crop: If the Barley has got its Stalks on the Spindle, it is then too old to roll, for, if it is rolled in that Condition, the Roll will assuredly bruise the Stalks of the Barley, which at this Time are so tender, that they will squeeze almost to a Mash; and then, as the Sap is hereby great Part of it lost, that should be spent in nourishing the after Stalk and

Ear,

Ear, the Crop becomes stunted, to the Degree of, perhaps, returning the Farmer but half the Quantity, which he otherwise would have had, if he had rolled his Barley at a right Time. These are Cautions absolutely necessary to communicate to the Public, and which most, if not all Authors, have been wanting to make known; nor, perhaps, should I ever have done it, had I not been a Practitioner near thirty Years, and travelled in several Countries, on Purpose to inform my Knowledge, and acquire that Learning how they practise the Art of Agriculture in other Parts besides where I live, as enables me to write what I do; and this with the least Help of Books, I presume, that ever any Author had, that has wrote so much as I have done, as I shall, by and by, further observe: However, before I quit the Subject of Rolling Corn Grounds, I must further take Notice, that all Barley and Oat-Crops are always rolled both in *Chilturn* and *Vale* Countries, in Order not only to squeeze down the Clots and fertilise the Crop by so doing, but likewise to lay the Surface of the Ground so level, that the Scythe may have the freer and safer Opportunity to cut down the Crop, as close as the Mower pleases; and this without the Danger of striking the Edge of his Scythe against a Clot of Earth, or Stones, which otherwise would very much, very probably, hinder the mowing Part; which leads me likewise to write on the Benefits of rolling Meadow or Grass-lands, as it is practised by the more ingenious and diligent Gentlemen and Farmers.

C H A P. XI.

On Rolling Meadow, or Grass Grounds.

THE Benefits of Rolling Meadow, or Grass Grounds.—The Rolling of Meadow, or Grass Grounds, is likewise of great Service to their Owner, if performed, in a right Time, and in a right Manner. The Time is *January, February, or March*, but the last is generally made Choice of, for performing this Work in, because now the Ground is got moist, by the former Winter, and *February* Rains, and thereby made pliable to receive the greater Impressions from the Roll: And because, by this Time, the Mole-banks are fittest to be crushed down, as well as the Worm-casts, which are all Enemies to Grass Grounds; and, therefore, the Roll is here very necessary to be made Use of, not only to squeeze down the Mole-banks or Heaps, the Worm-casts and the young Ant-hills, but also prevent, in a great Degree, their Rising again in the following Summer; which, if the rolling Part is not performed, they will surely do, to the great Damage of such Grass or Meadow Ground; for, when these Excrescences are let alone, as is generally done, the Owner of such Land suffers not a little, because it is these that blunt the Scythe, and cause the Mowers to stand still, and whet, twice or thrice, where they would do it, but once, if their Scithes met with no Opposition; but this is not all the Mischief that such Ant-hills, Worm-casts, and Mole-banks do to Meadow Grounds; they hinder a great Deal (where they are thick) of Grass, which a Tenant especially cannot afford to lose; and therefore it has often surpris'd me, not only to see, in my Travels,
many

On Rolling Meadow, or Grass Grounds. 119

many hundred Acres, not only over-run with small Ant-hills, Worm-casts, and Mole-banks, but with Ant-hills that stand so thick as to almost touch one another, and so big, that some one of them would be sufficient for a Horse's Draught, if taken up, and put into a Cart. But I hope, what I have wrote on this Subject, and what I have to write on it, will prove sufficient to convince Thousands in Time of their egregious Error, in letting such large Excrescences take up the Room of good Grass; which many, I am sensible, most fillily do, out of a vain Notion, that they get the greater Quantity of Grass-feed from such Hills, believing, that, by the high exalted Sides of a large Ant-hill, the more Grass grows on it, than would do only on its Basis or Bottom, without considering, that the Top and Sides of such an Ant-hill, in hot dry Summers, are sooner burnt up, than the Bottom would be, if it was furnished all over with growing Grass; because such a Bottom, or level Ground, lies nearer Springs, or Moisture, than the Ant-hill does, which, by being more exposed in Heighth, goes without a great Deal of this Benefit, in dry Summers; and the more, for that the Ants or Pismires are Creatures of a hot Nature, and so is their Dung or Stale; which renders one or both of them of such a poisonous stinking hot Quality, as to contribute towards making the top Part of such a Hill barren and bald, especially in a dry Summer; insomuch that, in wet ones, Cattle do not care to eat the Grass, that grows on the Top, or Sides, of such Ant-hills. These Considerations opened the Eyes of an ingenious Steward, who, this Summer 1743, made a vast Progress in cutting up Thousands of great Ant-hills, that had been increasing in a Lord's Park in the *West*, perhaps, for these hundred or more Years past; and this most profitable Work he did by Means of my sending him a Banking-plough, which, with its long and broad

120 *On Rolling Meadow, or Grass Grounds.*

broad Knife, cost, compleatly made, but one Pound and four Shillings; and the same I will furnish to any Person, on a proper Order, by providing and sending it to any Part of *Great-Britain, Ireland*, or to any of the Plantations in *America*; and they may depend on it, that this well contrived strong Banking-plough will cut up more Ant-hills, by being drawn with Horses in Length, in one Day, than twenty Men can cut up in that Time, and do the Work more cleverly than they can. Now Rolling of Meadow-ground, in Time, prevents in a great Measure the Rise and Increase of such large Ant-hills; for, when these are in their infant State, or in their Beginning, they are easily crushed down, and the Ants hindered, for some Time, in raising them again. But, when a Person neglects taking this Advantage of the Roll, the Pissum Banks must be cut up, by the Spade, or Banking-iron, worked by a Man's Hand, or cut up by this famous Banking-plough; the Roll likewise serves to squeeze the Surface Earth so close, that the Frosts, or Heats, cannot easily hurt the Grass-roots; the Heats especially, for, in dry and very hot Summers, the shallow Grass-roots are commonly so scorched that our Crops are hardly, many of them, worth Mowing; which is much prevented, by the Use of timely drawing about the Meadow a proper Roll; I say a proper one, because a very light one is not fit for this Purpose, as not being capable to press and close the top Earth sufficient to answer this great and profitable End. This Rolling is of the more Consequence, where a Tenant has all his Rent to make from his Meadow, or Grass-land, as many in *Middlesex*, and some other Parts, are obliged to do: Hence, the Invention of the great hollow Roll took its Rise, which cost one Gentleman near twenty Pounds, to have made on Purpose to roll his Fern, while it

was

was in its infant Growth, to crush down new made Mole-hills, Ant-hills, and Worm-casts, which this Roll will effectually do, and by its great Weight so bruise the Stalks of the Fern, as to discourage its Growth, and in Time will certainly kill it, by repeated and frequent Rollings; that is, if the green Fern is rolled by this or any other sufficient weighty Roll, but twice or thrice every Summer for two or three Summers after one another, by this Means the same will be destroyed, and a fine Grass grow in its Room, to the great Benefit of such Ground. Therefore, where a Meadow or Pasture-ground is over-run with Fern, Ant-hills, Worm-casts, or Mole-banks, such Excrescences are owing to the Omission and Neglect of their Owner, because they are most easily prevented, and destroyed, by the timely Application of a Roll; which, when made Use of as it should be in either Grass or Corn-grounds, will cause the Grass to stand erect and stiff, and so it will the Straw and Stalks of Corn; an Advantage that all ought to desire, for, when Grass is laid, as well as Corn, by the Power of Rain, Wind, and a loose hollow-bottomed Earth, it is apt to rot before Cutting; and, when this happens, it may, and is sometimes a great Loss to a Farmer. But, I remember, some roll their Corn-Land too soon, as I said before, as in *Middlesex*, some of their Farmers will roll their Barley-ground as soon as the Seed is sown; which is an early Fault, and consequently presses down some Part of the clotty Earth so hard, that many Corns cannot send their Spires through it. Others roll their Clover, St. *Foyne*, Trefoil, and Ray-grass Grounds, to crush down all Stones, and make the Surface lie the smoother for the Scythe's Operation.

C H A P. XIII.

Of Brewing March Drink.

THE ill Consequences that attend Brewing Harvest-Drink late. — The former old Way of brewing Drink for Harvest-men was commonly performed in the Months of *May*, *June*, or *July*; for, if a Farmer could but get a sufficient Quantity of Malt-liquor brewed against that Time, he thought all was right on that Account. But the present better Practice, now carried on by a few of the more knowing Farmers, is otherwise, as knowing, that, if they practised the old Method of Brewing only one Sort of mild Drink for Harvest, it would prove very much to their Prejudice; because, when they brewed only one Sort, it was generally a mild Ale, and, as that was brewed so late as in *June*, it was no other at Harvest-Time than a new Ale, which must be swallowed in large Quantities, before it could quench Drought, and make the Drinker's Heart merry; hence it was, that the Altering of the old Way of Management took its Rise, and for the following Reasons proved for the best.

Of the Advantages arising to Farmers from brewing a March strong Beer, and a Summer Ale, for their Harvest-Use. — As *Hertfordshire* is a County nearly situated to the Metropolis, and that abounds with the most and largest Markets of any County of its Bigness in *England*, it may be said, we are the greatest Traders in the Corn Trade; and this not only by Means of the Grain produced in our County, but likewise, because of the vast Quan-
tities

tities of Wheat brought from *Leicestershire*, *Northamptonshire*, and *Bedfordshire*, to our Markets, for the Sake of its ready Sale, and best Prices. On these Accounts it may be justly said, we bring up and employ the acutest Ploughmen and other Servants, and the greatest Number of them; and this we do every Year more and more, by Reason of the stocking or grubbing up several Woods, in order to convert the same into arable or Corn-Land. And, that we may have our Work done in the most Workman-like Manner, and as much as we can in a Day, we give both our Servants, and Day-labourers, great Encouragement, even more than any other County, except *Kent* and *Essex*; for here they are obliged to give the largest Wages, because of the Unhealthiness of great Part of their County, occasioned by the sickly Vapours that arise from their vast Quantities of Marsh Grounds, which breed Agues, Fevers, and Consumptions; so that, if they did not give great Wages, they would be apt to want Hands in Harvest-time. Our general Way is, to hire those Men we employ, besides our Servants, for a Month certain, and give each Man from Thirty-two to Thirty-five Shillings, at the End of that Time, according as he is of Ability, and maintain them in the best Manner at Bed and Board. Now, to give an Account of the Whole is not here my Purpose, and, therefore, I shall only be particular on that Part of it, relating to Drink; which, indeed, I call one main Part of their Subsistence, and which, therefore, concerns the Farmer's Interest, to study how to manage in the cheapest and best Manner. As I said before, the old Way was to brew only a mild Ale, a little before Harvest, which puffed up the Harvest-men's Bellies, before they could quench their Thirst,

and by this Means occasioned them to consume a great deal, to the Farmer's Loss, both of Malt and Time, for, by Drinking so much, it sometimes incommoded the Workmen; but, by the late Method of Brewing a strong Beer in *March*, and a mild Ale in *June*, the Mixture of them in Drawing makes a Drink not only more palatable, but more heady and wholesome: More palatable, because, by a proportionable Mixture of stale Beer and Ale, the Drink becomes nearest to the Taste of a *Dulco-Acid*, or most pleasant sharp Sweet, which, consequently, is the most agreeable Taste of all others, for satisfying Nature in the quickest and best Manner; more heady, because there is allowed a greater Share of Malt and Hops, than ordinary, to such *March* brewed Beer, and, as we say, every Pound of Hops, administers so much Strength to it, that it is certainly a great deal the stronger for it; and thus, by the greater Allowance of Malt, Hops, and Time given to *March* Beer, more than to common mild Ale, it has the Advantage of becoming a most potent strong and heady Liquor, than mild new-brewed Ale is, made from a lesser Quantity of Malt and Hops; more wholesome, because such *March* Drink, having these Advantages of a greater Strength of Malt and Hops, and an older Age given it, than is allowed to mild Ale, is, thereby, qualified to pass through the Fermentation of Yeast and Weather, and thereby acquire so clear a Body, as to free the Drinker from those foul and most dangerous Effects, that mild new-brewed Ales are commonly loaded with, when their muddy Particles reside unsettled in all the Mass of Liquor, and which often (though unperceived by ignorant Drinkers) are the direct Causes of fatal Diseases to human Bodies; but, a true-brewed, fine, delicate *March* Beer being brewed in the *Equinoctial* Season of the Year, the
Water,

Water, Air, Malt, and Hops are in their greatest Purity, and by Harvest Time have all of them so united their Principles as to become one intire homogeneous Liquor, fitted to pass through the several Secretions of the Body in such due Time, as not to lie clogging the Stomach, and damaging the Drinker, which mild Ales, drank in Haste in large Quantities, seldom fail of doing. When then a Farmer is provided with such a *March Beer*, and mild Ale, it is in his Power to meliorate either. If his strong Beer is too sharp and stale, it may be corrected by the greater Addition of mild Ale; and, if his mild Ale is too grouty and clogging, it may be corrected by adding the greater Quantity of stale Beer, and thus not only made the more wholesome, but likewise the more pleasant; which leads me to make farther Observations on the particular Qualities of the several Ingredients, that they may be brought to answer these valuable Ends: And, *First*, of

The most proper Water for brewing March Beer.
—This is either Pond, River, or Rain-Water. These are the most natural Sorts of all others to brew *March Beer* with, if they are in pure Order; and this, because there is more Strength in them than in Spring-Waters, even to the Saving of half or a whole Bushel of Malt in Eight, which is of considerable Consequence to a large Farmer's Interest; and which I the more particularly take Notice of, because I am very sensible this Benefit is overlooked by many of the ignorant Sort, who directly have Recourse to their Well, though a fine clear Pond-water is, perhaps, no farther off their House, that is, at this Time of the Year, free from the Pollution of Frog-spawn, from the Slime of Fish, and from the Poison of certain Worms and Insects, which, by the Stagnation of
Summer

Summer Pond-Waters, breed and abound in vast Numbers, sometimes to the Destruction of Cattle that have no other Water for supplying their Drought; and would, likewise, be the Case of those Persons who are obliged to drink the Malt-Drink or other Liquors made with such Water, was it not for the Boiling-part and a timely Digestion afterwards of its heterogeneous and unwholesome Properties; of which I could write a great deal more, but my Room here will not allow it, and, therefore, must hasten to my next Article, which is to give an Account

Of the Malt most proper for brewing a March Beer with. — The Malt most proper to brew a *March Beer* with, for Harvest-men's Use, is a brown or an Amber Malt, because these commonly have the greatest Share of Fire in them; which makes them the more proper Sort for brewing a strong Beer with, that will better quench the Drought of a Drinker, than the Beer brewed from an intire pale Malt, that commonly has the least Share of Fire in it, and, therefore, is the more lax and soft, and produces a Drink of the same Quality, disagreeable to Harvest-men, both for its Colour and Taste; for these laborious People do not care how brown their Drink is, nor how white their Bread is; and this with a great Deal of Reason, not only for what I have just now alledged, but likewise, because the pale Malt is often, nay, I believe, I may say, generally infected by the poisonous Wevil, when the brown Malt escapes their Mischief; for these Insects will not breed half so soon in brown Malt as they will in Pale; and, therefore, the brown Beer Drinker has the greater Assurance of being clear of their mischievous Effects. Besides, the brown Malt, by the acid Quality it acquires from its great Share of Fire, that
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it is impregnated with, more than pale Malt, saves the Charge of Hops in some Degree, and yet causes its Beer to be sooner ripe, and fit for Drinking, than that brewed from pale Malt. In short, a brown or Amber Malt-Liquor is as fit to please Harvest-men, as the pale Malt-Liquor is to please Gentry.

Of the Hops most proper to brew March Beer with.—As there is a great Difference in the Nature of this Vegetable, I think it but reasonable to inform the Gentlemen and Farmers of it; and not only as such a natural Difference is in the Hop, but also from that artificial one, which, by the Craft and Subtlety of arch Knaves, has brought this fine Fruit under, in order to increase their Profit, to the Loss of the Brewer and Damage of the Drinkers. The brown Hop is, past Dispute, the strongest Hop, and the palest Hop the weakest. Therefore, that Brewer who understand not this, may deceive himself in thinking to brew a keeping sound Beer, when he may brew a Beer that may grow sowre before the appointed Time of Tapping it; the natural Causes of the Weakness in any Sort of Hops, indeed, are sometimes owing to the Damage of Insects and the Weather; as when the Fly and Lice take them, and eat the Leaves, and damage the Hops, so as to deprive them of great Part of their Strength, insomuch that one Pound of good Hops will go as far as two or three of these bad ones; the same may be said of the Mould and other blighting Causes, which Hops are, more than any other Vegetable that I know of, subject to suffer by. And, likewise, another Sort of Damage I am to apprise my Reader of, that keeps Company with Hops, when they are kept too long, as great Quantities of them, sometimes, are, and then they lose
great

great Part of their primeval Vertue ; but this may be partly known by the deeper or browner Colour that such old Hops are apt to acquire by long Keeping, unless they are, by the villanous Application of Knaves, new coloured and bittered. And now, having given some Account of the Nature of Water, Malt, and Hops, it remains, in the next Place, for me to say something of their Uses in brewing a *March Beer* for Harvest-men.

The plain Way made Use of by a certain Farmer to brew his March Beer for his Harvest-people.—The Farmer I here write of, is one that, in this Year 1743, rents an inclosed Farm in the *Chilturn* Country of *Hertfordshire*, of about a Hundred a Year ; has thirty Acres of Wheat commonly in a Season, and employs eight Harvest-men and two Boys to inn his Harvest-corn. The Father of this Farm rented the same before him, and his Son has occupied the same Farm near forty Years, and yet never knew how to manage his Harvest-drink till about the Year 1740, when, being at another Farm-house in the same County, he had some *March Beer* presented to him in Harvest-Time, and was told, that he might have that or mild Ale, for that they brewed both to mix together in a Quantity most agreeable to the Men. This gave him the first Intimation of the great Conveniency of being Master of two Sorts of Drink at Harvest, the one to help and mend the other, as Occasion offered. Now, to brew the strong Beer, he made Choice of *February* and *March* ; but the Latter is certainly the properest, as I have before observed. When he had got his Mash-tub in Order, with a Tap and Tap-whips, he took his Water from out of a Pond situated on a high Hill, very much exposed to the Power of Winds, that kept it generally in good Order, as it always was in the Month
of

of *March*, notwithstanding this very Pond was a Receptacle for the Drain of a High-way as well as the Rain-water, which very much contributed to the Strength of the Water, and made it fitter to save Malt in some Degree; and I have observed, that this very Farmer had some of the best *March* Beer and mild Ale that ever I met in a Farm-House, both brewed by his Servant-Maid or old House-keeper that had lived with him near thirty Years. Her Way was to just boil her first Water, and then immediately lade it into her Mash-tub, where it lay undisturbed till it had spent so much of its Vapour, that she could see her Face in it. Then it was that she began to empty her Ground-malt by a little at a Time, and with the Help of another Person had it stirred now and then to keep it from Clotting and Balling; this Work was kept doing till about four Bushels of the Malt were stirred and wetted, and then she spread over the While one Bushel, that she reserved for the Purpose to prevent too free an Evaporation of the Spirit of the Malt-liquor, and keep out the cold Air in some Degree; when all was finished thus far, the next Thing was to draw off a first Liquor from the Malt, which to do in a right Time, she suffered the Malt and hot Water to lie together undisturbed, two Hours and a Half, and then let it out in a very small Stream, at first, till she increased the Current to a bigger Stream; and this gradual Running she observed to keep up to, for the better preventing the Liquor running foul. And, when all was run out, she put it into the Copper, and, if there was not enough at this first Running, she put over some hot Water, till she got enough to make up half a Hogshead, from these five Bushels of Malt, which was the Quantity she always made from this Parcel. As soon

as the Malt-liquor was all in the Copper, she took two Pounds and a half of the best Hops and rubbed them small; then kept on a fierce Fire till it boiled, and so on, till the Hops sunk and the Wort broke in large Particles: On this Discovery, she slackened her Fire, and took out the Wort, that she strained off through a Sieve into Coolers, laying it thin enough to be out of Danger of Foxing, which thick Lying on hot Wort often subjects it to. When the Wort was cold enough, which would not be till it was luke-warm or Milk, or Blood-warm as we call it, then she mixed some Yeast with it, and suffered it to work leisurely into a curled Head; then she stirred all with a Hand-bowl, and, after she had repeated the same about twice more, she tunned or barreled the strong Beer; which, when it had cleared itself of the Yeast, sufficiently, she bunged down with a wooden Stopple that had a Peg in the Middle of it, to take in or out. This is far better than a Pot of Clay, that, in dry Weather, is most subject to crack, let in the Wind, and spoil the Malt-liquor, when the taper wooden Stopple, with its Peg, will preserve it sound in all Weathers; and, when this *March Beer* has been thus kept till Harvest, they tap it and mix it with mild Ale in the following Manner:

Of the Use of March Beer and mild Ale.—The mild Ale, that she brewed in *May* or *June*, being likewise ready to tap, at Harvest, she commonly mixed one Pint of the *March Beer* with three Quarts of such Ale, and then it became so pleasant, so strong, and so clear a Drink, as pleased the Men to the Encouraging of them to go on with Vigour and Expedition in Reaping and other Harvest-work; for, such a mixed Drink being made acid enough to quench their Drought in a
small

small Quantity, they do not lose much Time in Tippling, as most do who have no other than a mild newish Ale allowed them, that must fill their Stomach, before it quenches their Drought.

8.7.88

C H A. P. XIV.

*A Copy of a Letter for sending a Gentleman
Aylesbury Pirky-Seed.*

S I R,

PRAY send me by the Return of the Waggoner a Quarter of your *Aylesbury Pirky* Wheat for a Trial of it; and, upon the Delivery of it, I will pay him for it, you sending by him an Account what it comes to.

At your Leisure, please also to send me such a Sort of Plough as you reckon best for a dry loamy Soil; which shall be properly acknowledged by,

S I R,

London,
Nov. 8, 1743.

Your very humble Servant.

Direct for ——— Esq; at ——— London.

The Author's Answer to this Letter.

S I R,

ACCORDING to your Order, I have sent you some *Aylesbury pirky* Wheat-feed, that was brought from the lower Parts of *Buckinghamshire*,

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about

about two Years ago, and since sown in some chalky Grounds, that lie a few Miles distant from my House, which gives the Seed a very improving Quality, thus : In this County of *Bucks* there are Men who make it their Business to plow up Pasture-grounds (which were at first laid down for this Purpose) and sow pirky Wheat-feed in the same for a first Crop : By which Means, their Return, at Harvest, is a clean, pure, large-bodied Wheat, free of the noxious Seeds of Weeds. Now as this Wheat comes off a rich, black, mouldy Earth, as most is in the Vale of *Aylesbury*, it is saved with great Care, on Purpose for Seed to sell to Farmers. But, in the first Place, it is bought by particular Men, who make it their Business to collect and buy it in great Quantities, for selling it again to many Farmers in small Parcels ; among which Number there are several of my Acquaintance, who are Occupiers of chalky Grounds, and who punctually observe to buy this Sort of *Aylesbury* pirky Seed, chiefly, because it grows, and is fetched, out of *Aylesbury* Vale, to sow in the *Chilturn* Country in different Soils, where they sow it no more than two Years, before they buy more of this fresh Maiden pirky Wheat-feed, for by so doing they find it answer their Account to great Profit.

First, By Reason the frequent Change of their Wheat-feed delivers them, in a great Measure, from the Diseases of Smut and Pepper-wheat.

Secondly, By sowing this pure clean Seed, the Farmers are not troubled with the Seeds of Weeds, which oftentimes keep Company with Wheat-feed that is not changed.

Thirdly, By such Change, the Kernels are enlarged by growing in a great Ear and Crop ; and this, because the Seed, by coming off a contrary Soil,

Soil, grows with the greater Vigour ; for a blueish or black stiff Earth or Clay most certainly gives a chalky, gravelly, sandy, or dry loamy Ground a great Advantage for the Improvement of their Wheat-crops, from the Seed-wheat, that, as I said, comes off a contrary Soil. But, if a Farmer was to sow such *Aylesbury* pirky Wheat-feed, on the same Soil, or that which is near the Nature of it, he must not expect a great Advantage by it, because the Difference will not be enough to cause a profitable Alteration. And I have this farther to remark, that it is a common Thing for those Farmers who live in the stiff Grounds of *Bedford, Northampton, Leicester, and Derbyshire*, to send to *Dunstable*, for red *Lammas* Wheat-feed, as believing no Seed comes up to the Profit of the red *Lammas* Sort. But I can assure them that several Vale-farmers now refuse to sow the red *Lammas*, by preferring the *Aylesbury* pirky Wheat, even those that live within forty Miles of *London*, because it is a more hardy Wheat, and yields more in Quantity than the red *Lammas*, and when the pirky Wheat comes to Market, from off dry Soils, where the Seed was had from *Aylesbury* Vale, it will fetch near or quite as much as the red *Lammas* Sort. Therefore, as several Farmers intend to be more curious in sowing this *Aylesbury* pirky Seed on their chalky Grounds, partly for furnishing Gentlemen and Farmers by me with the true Sort of Seed, fit to sow in dry or wet Loams or Clays, if any Person send a proper Order to me, I will take Care to send them a right Sort of Seed, such as I am going to give a particular Account of, viz.

An Account of a new invented, most excellent cheap Tool, that prepares the finest and most profitable Wheat-seed that can be sown.

S I R,

AS your Order seemed very pressing, I was obliged to ride to *Hempstead* Market, and take the Chance of finding out a good *Aylesbury* pirky Wheat-seed; which was impossible for me to be certain of, had I not been acquainted with the Farmer that sold it me, who is one that rents above three Hundred a Year, and bought the Seed but two Years ago in *Aylesbury* Vale, and sowed it in his *Chilturn* chalky Land, and it is pretty good Wheat, for Market Wheat. But, had you given me one Week's Notice before-hand, I could have sent you such a Quarter of this *Aylesbury* pirky Wheat-seed, as never yet was sent out of *Hertfordshire*, for Largeness and Evenness of Body; two Properties that are of great Value to all that sow it, because (if the Year proves favourable) the Kernel will be like the Seed; that is, the Crop will branch much clearer of Weeds, and the Wheat be so large-bodied, as very likely to sell for one Shilling a Bushel more than the common Sort will for Seed, and for six Pence a Bushel more than common Wheat sold in Market: An Advantage that must amount to a great Sum indeed, where a Farmer rents a great deal of Ground. Now what I have here advanced may very likely seem a strange Thing to many, and especially to those who arrogantly think there can be no more Improvements made in Farming. But I can assure you, it may be done, and that very cheaply too, by a Tool which I am Master of at this Time; and, how I came by it, may appear by what follows: — A Gentleman of about a Thousand

send a Year Estate, a Reader and an Approver of my Writings, and who tho' such a Stranger to me, that I never yet saw his Face, (out of his great Goodness and kind Wishes to my Interest) was pleased to send me this Tool about sixty Miles by Land, with a Charge that I do not make it publickly known, in order for my receiving the greater Benefit by it; however, as my Endeavours are mainly leveled at my Country's Good, I must presume to take the Liberty of letting the World and you know, that by this Tool I could separate the masterly large Wheat from the under-line small Kernels and Seeds of Weeds, and thereby fit it, and make it the most profitable Seed that can be sown; which indeed will enhance the Price a little of such Seed-wheat; but let it be considered, what a vast Advantage must accrue to those that sow such *Aylesbury* improved pirky Wheat-seed, for was I to enumerate all the several particular Advantages that might arise by preferring such Seed, it would take me up a great deal of Writing. Now this excellent Tool or Machine is so small, that I can carry it in my Leather Portmanteau to any Gentleman that thinks fit to consult me about Rustic Affairs, as several do; and, by thus carrying it with me, I shew their Servants the Use of it. But, if any think fit to purchase it, it is to be sold at my House and no where else, and how to manage it a few and plain Directions will suffice to instruct the meanest Capacity in the Use of it. This Tool, though of a small Bigness, is but little behind the great thirty Pound round wire Worm-screen, that cost a great Farmer thirty Pounds with all the Tackle belonging to it, for separating the best from the worst Wheat; and thus he obtained an excellent Seed and Crops beyond his Neighbours, but at a smart Charge.

Charge. It is true, that this great round Wire-screen will do something, and not a great deal more than my Tool will in an Hour's Time ; but notwithstanding the clever Contrivance, that attends this great Wire-screen, which is seven Feet in Length, seventeen Inches wide, and has a constant Run or Feed of Wheat supplied to it, while it is turning round by the Hands of one Man, with the Help of three Setts, I think, of wooden Teeth, or Cogs ; I say, although this round great Screen cost so great a Sum, is of such extensive Length and Bigness, and, as it works, constantly discharges two Sorts or Sizes of Wheat by one Motion or Turning round of the Screen, that is continually supplied by Wheat that runs into it, from a Heap in a Chamber or Loft, over where it is placed : Yet this excellent Tool of mine will do this Work altogether as clean as this great Screen, and near as quick, and is easily portable, because it may be carried about by a Child of four Years old. Whereas the great Screen cannot be moved, by Reason it cost a pretty deal to have it fixed in the Place it is in ; likewise, in case the great Screen should want Mending or Repairing, a Gentleman, or Farmer, must be at a great Expence to have it done, as it is not a moveable Instrument. Now this small profitable Tool of mine any Person may have sent them, and they may assuredly find, that it will separate the largest and best Wheat from the smallest and worst, and Seeds of Weeds. I have seen the great round wire Worm-screen more than once, and I experienced the small Tool I here recommend ; and, therefore, as I have a Foundation of Truth for what I write, I will venture my Reputation on the Trial of it, without fearing I shall lessen it ; which lays me under a great Obligation to this single, worthy, but strange

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Gentleman, who takes Delight (notwithstanding his great Estate) not only to invent ingenious and most profitable Instruments for the Farmer's Use, (for there are others of his Contrivance I intend to make known hereafter) but to improve his fine Talent, by letting me into this most serviceable Secret to do me Good ; and, by doing me Good, he knew he would in a right Channel do the World a vast Kindness. I wish I could give an Account of the like Generosity of others, who, by their Ability, have it in their Power to encourage and help to defray the expensive Labours of an Author, who could not do these Works without Travelling often ; for I am necessitated to ride to distant Parts now and then, to get Master of such and such a Practice, that is carried on in a particular Part of the Country, and no where else. Again, I am sometimes forced to desist from such a Proceeding, because the Charge would be above my Pocket ; and, through this my Inability, many a brave Secret lies dormant, and hid from the Public, which if I could afford to pay Spies, and to travel from Time to Time, as Occasion requires, would be made known to the World. And therefore whoever is a Benefactor to me, in this Respect, is a Friend to their Country, for the small Profit of my Monthly Books will not do it.

As for my sending you a Plough to work in a dry Loam, there are several that I could send for this Purpose ; but, to send you the most proper one, I should have a previous and very particular Information, whether your Land lies in an inclosed Country, what Sort of Earth your Country abounds with in general, what Sort of Ploughs they use at present, and where your Estate is, that I may be the better enabled to form a true Judgment of that Instrument, which will be the more

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service.

serviceable for you; whether the two-wheel Jockey-plough, the two-wheel Turnwrist-plough, the two-wheel Draught-plough, the two-wheel *Hertfordshire*-plough, or the two-wheel Chip-plough; the one Wheel over-cheek, or one Wheel under-cheek, or one Wheel *Gloucestershire* Plough, or the Foot-plough, or the Swing-plough, &c. would any one of them suit your particular Soil and Situation; or whether the three-wheel Drill-plough, or Pulley-plough, or the excellent Horse-break, that is always and only sent with the three-wheel Drill-plough, is best to have; for your Interest very much depends on having a right Plough, and I, that have seen so many besides the several I use myself at this Time, must certainly be something of a Judge in this Matter. I have known a Farmer to break, merely by Reason his Obstinacy attached him so fast to the Use of a particular Plough, that he used in a Country before he lived in the last he broke in, that he would not be persuaded to make Use of one that would plow his different Soil deep enough. I know another that came after such a one in another Part of the Country, who got Money apace, by using a Feked-share Foot-plough, that went after a Wheel-plough, and turning thereby up fresh Ground that had not been exposed to the Air for many Years before, he got whole Crops of Grain, where the Farmer Tenant got but half Crops and so broke. But whether I send you a common Plough, or the Drill-plough, and Horse-break, that does Wonders, it is absolutely necessary I send particular Directions with it for the Use it is designed for; for, without them, the Ploughman may be provoked to refuse Working it, or, at least, make it to do its Work so bad, as to cause it to be laid aside; for it is hard to introduce a new Plough into a Country where
it

it never was used before. Therefore, please, Sir, to be a little particular in the Account of your Soil in general, its Situation, and what is otherwise requisite for informing my Judgment in the Choice of a proper Plough that will do you the most Service ; and I will use my best Endeavours to answer your Purpose. But, before I conclude this my Answer, I have thought it necessary to explain what I mean, by saying, *To pay Spies, and to travel.*—It is this : I have paid a Messenger on Purpose to enquire into such a Farmer's Practice, who, I have heard, managed better than his Neighbours. Another I have sent to enquire if it is true, what I was informed of, that such a Gentleman received a great Advantage by his trying a new Project. And, at this Time, I want to send a hundred Miles for a new Sort of excellent Seed : Sixty Miles another Way for another ; above a hundred Miles for a third Sort : To travel seventy Miles from Home, for my seeing the Method of their making a particular Sort of Liquor ; to another Distance, to see a new invented serviceable Instrument : To another Place to see a new Plantation, and so many other profitable Curiosities, which would be absolutely necessary for me to know, in order for my publishing their great Benefits to the World ; for, if I had not done a great deal this Way myself, I had not been capacitated to write the numerous valuable Matters that I have done ; and, if I was so far assisted, as to be able to defray those contingent Charges, that are truly necessary for me to be at in this Manner to do the World a great deal more Service, it is very probable, I could do it to the Satisfaction and infinite Advantage of my Country ; for it is easy for many to help one, but difficult for one to help many.

C H A P. XV.

Sir John Dalrymple's Character.

TH E Character of Sir John Dalrymple, *Baronet*.— This worthy Gentleman was a *North-Briton*, whose Seat was at *Coussland*, near *Edinburgh*; and who, on the eighth Day of *September*, 1742, rode up to my Door, with two other Gentlemen in his Company, asking if my Name was *Ellis*. I answered in the Affirmative; upon this, Sir *John* desired my Company, to a Glass of Wine, at the *Green-man* Inn, on *Gaddesden Green*, and I waited on him accordingly; when, being seated, he began to explain himself, and said: That he was a Purchaser of my Works, and found them to answer his Expectation so well, that he came to settle a Correspondence with me. I told him, I was very glad of the Honour he did me, and that I would endeavour to give him Satisfaction; for this Purpose, he furnished me with several Blank covered Franks, to fold my Letters in, to him, and he got his franked to me: After the first Day's Conversation was past, he came to my House the Day following, and desired to board with me, and that I would also provide for his Servant, and two Horses, telling me at the same Time, he had done so with Mr. *Tull*, at his House near *Hungerford*; my answer was, I had not a Conveniency for doing it: However, we settled so close a Correspondence, that, in a little Time after Sir *John* arrived at his Seat, we exchanged several Letters; mine I presume to his, I am sure his were to my Satisfaction: The Copy of his first Letter is as follows, viz.

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The Copy of Sir John Dalrymple's Letter to the Au-

S I R,

I Received yours, of the 31st of *Ult.* in which you desire to know the Sentiments of Gentlemen, and others, in this Country, who practise Husbandry, concerning your Writings. As you have put it in my Power to be any Ways serviceable to a Man, to whom the whole Island is greatly beholden ; I shall lay the Matter before our two Societies (for Improving in Agriculture) of *Edinburgh* and *Ormistowne*, who I dare say will join with me in the Character of your Works (and particularly of such of your Monthly Pieces as are published) which I shall now give, since you are so obliging as to employ me in this Commission. I have perused all the Books of Husbandry printed in *England*, I could meet with, since Judge *Fitz-Herbert*, who wrote in the Beginning of the Reign of *Henry VIII.* He, I believe, is the first, and, as he was a Man of great Judgment, and wrote after forty Years Experience, must have done great Service to the Age he lived in. Sir *Richard Weston* (who was banished for Adhering to King *Charles* the First, and wrote a small Treatise on the Husbandry of *Brabant* and *Flanders*, addressed to his Sons for the Management of his Estate) was the first who set the Husbandry of *England* upon a right Footing ; and upon his Plan all the new Improvements (which are brought to so great Perfection in the *Southern* Counties of *England*) are founded ; since his Time, I think Mr. *Ellis* is the first Man, who hath given proper Directions for the Management of all Sorts of Soils to the greatest Profit, in a Way that must be obvious to all Practitioners. Most of the late Authors, such as *Mortimer* and *Lawrence*, have copied after old ones, and, as
a great

a great Change hath been made in Husbandry, are of less Use : But Mr. *Ellis*, I think, hath copied from no one, and what he writes is taken from the Observations he made in Travelling through every County, where he understood any Point of good Husbandry was practised ; and, as he is a Man of great Experience, his Observations are made with such Judgment, that I have not observed any of them, but what may be intirely depended on, which can be said of few Books on this Subject ; if Mr. *Ellis* hereafter shall (as Mr. *Bradley* hath done) digest his Monthly Pieces into one Volume, or two, under proper Heads, it will be the most useful Body of Husbandry that hath been wrote in any Country, in my Opinion.

J. Dalrymple.

Having answered one Part of your Letter, I shall go on with the rest of it, and first thank you for what you communicated, concerning the Experiment made in your Country, on Sowing of Carrots ; I think the Method for deepening the Soil by one Plough following another is good, provided the Land were to lie fallow a Summer, and be hacked and bouted, by your Directions ; but if Carrots, or any Thing else, were to be sown, soon after Plowing, I should judge the Soil would be too cold. I think, if Carrots were sown after a horse-houghed Crop, suppose of Turneps, the Horse-houghing them the Year before, would be a Trenching to the Ground, which would cause them to root well. I have a Field of horse-houghed Turneps this Year, at four Feet betwixt the Rows ; they are much larger than any I saw in *England*, being most of them a Foot, or thirteen Inches over, and the Ground so clean, and well stirred, that I design to have Carrots there, the next Spring. I hope we shall have further Directions from
you

you in your Writings, before that Time, for Carrots are more useful Roots than even Turneps; I have not seen your *September*, where I hope to have Directions about Potatoes, which I am also to plant, next Year. I use a Method among the horse-houghed Turneps, which I do not observe in your Books. After the last Plowing of the Turneps with the Plough, I then either sow or set Rape Plants in the Interstices, which do not harm the Growth of the Turneps; and also as I raise the Turneps, to give to the Cattle, I put in Rape Plants, with Dung, where the Turneps stood. This is Spring Meat for Sheep, and makes some Amends for the Loss of the Turneps, that are carried to another Field: A Gentleman hath promised me a Receipt to cure, or prevent the Disease, that Sheep take in eating Turneps, which I shall send you. I want to know how you use the Rapes and Turneps in the Spring, which you was sowing after a Crop of Corn, when I had the Pleasure of seeing you at your House: If you turn the Sheep into them to continue there, till they be eaten up, or if you only give them a little at a Time. I saw, in *Lincolnshire*, Rapes that had been sown at *Midsummer*, they told me they were to feed Sheep till *Candlemas*; I suppose, the Sheep have not Liberty to stay always amongst them, but only now and then; pray let me know where *James Godden*, Plough-wright, whom you mention in your Works, is to be found. If you call for Mr. ——— one of the *Esq.* and make my Compliment to him, he will befriend you; he hath seen your Works, and lately made a Present of three of your Monthly Pieces to the *Ormistoun* Society. Farewel.

You mention in your *Chilturn* and Vale Farmer, that you sowed some *Spanish* Wheat; I should wish to know how it succeeded; but it seems you do not approve of it, since you mention no more of it, in
your

your after Works ; let me know if any of the naked Barley can be had, in your Parts. Pray call of Mr. — he is an ingenious Gentleman, and a great Lover of Husbandry ; if you send in your Name, he will know you.

Edinb. Nov. 16.

1742.

Remarks on Sir John Dalrymple's Letter.— This is the genuine Copy of Sir *John's* first Letter to me after he got Home, as may be seen at my House, with another or two he sent me, before he died, which, I think, happened about *June* or *July*, 1743, very much lamented by his Country ; the Copy of his third Letter I published in my Monthly Book for *December*, as may be read at Page 115, where any Person may plainly perceive, how well versed Sir *John* was in History, particularly in that Part relating to Improvements of Husbandry, which he made the main and most delightful Part of his Study and Practice ; and, indeed, it may be truly said, he chose the better Part by so doing, the Effects of which, I hope, will never be lost from his honourable Family : For, as I am informed, he made so good Use of his Knowledge in Agriculture, as to lay out his Money in the truest Manner, for increasing it ; and that was, by purchasing poor Land, and making it rich Land, which he did in the greatest Perfection, chiefly, by Sowing it with a Seed, that answered this Purpose ; and that was Turnep, Carrot, Rape, artificial Grass Seeds, &c. the two first Sorts of Roots are well known to feed Sheep, Horses, and Oxen, all the Winter Season, and fatten them with great Expedition and to great Profit ; for, while these excellent Roots are performing these valuable Ends, they produce to their Owner such large Quantities of Dung, as
with

with good Management increaseth the Fertility of the Earth ; the same may be said of Rapes and artificial Grasses ; these are likewise not only capable of answering the same Design in the Feeding-part, but they are ready to grow on, and improve that Ground, which is not fit and natural to the Turnep and Carrot ; and, as Sir *John* was thoroughly apprized of the great Benefit that Change of Species administered to Land, and how it affected to be sown sometimes with that Seed, which produces Vegetables, with downright tap or forked Roots, and at other Times, with that Seed, which produces horizontal or spreading Roots, he took peculiar Care to carry on this Way of Farming ; for Experience shews to the meanest Rustic, that the Earth affects Variety of Plants, so much, that if one Sort of Corn, or other Seed, is sown too often in it, it will certainly complain, by the scanty Returns it makes of Crops of Corn, artificial Grasses, Roots, &c. But his great Genius was not altogether shewn by cultivating Crops of Turneps, Carrots, Rapes, artificial Grasses, Wheat, and *Lent* Grain ; he excelled in Sowing Flax-seed, which the Roots of Turneps, Carrots, Rapes, and Grasses prepared the Ground, for the Reception and fruitful Growth of ; and thus delivered Sir *John* from the great Charge of buying Manure, and fetching it, as many do, from a great Distance, at a vast Expence ; which is the Case of many Farmers, who, through an obstinate Way of proceeding, will not be persuaded to leave off their old worse Practice, to get into a new and more profitable one, that may save some of the greater Sort many Pounds in a Year, which they expend in buying Manures, if they would, like Sir *John*, try a little Spot of Ground first, and see if that answered the Improvement, that is said to be produced from it. The

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great late Increase of *Scotch* Hollands, that, by the Ingenuity and Industry of Sir *John*, and the two incorporated Societies, at *Ormistoun* and *Edinburgh*, for Improving of Agriculture, and other Arts and Sciences, is a Proof of the great Progress Sir *John* made in this Art; an Art, that justly deserves the greatest Encouragement of all others, as being the most necessary one, and which Sir *John* shewed he had a true Notion of, by performing that, which I never heard any *English* Gentleman did; that is, by condescending to learn Improvements in Husbandry in the best Manner. This Sir *John* did, by spending Part of his Estate, or Income, in Travelling, to see Variety of Practice, in different Parts of *England*; in buying up all the Books he could meet with, wrote on this Subject; and not only contented himself in the Enjoyment of these two Branches, but did likewise search out, keep Company with, and encourage Authors, in such an affable, condescending, pleasant, and yet genteel a Manner, as engaged all to declare their Sentiments, with Freedom and Satisfaction: Whereas, had he been of a lofty, starched, and captious Behaviour towards his Inferiors, he certainly never could have acquired those fine and most valuable Secrets in the Farming Art, that he was furnished with. But this Gentleman and Master of Languages discovered he was such a one, by his Generosity, his acute, but plain Way of talking and writing, his endearing Deportment, and his sincere Endeavours to serve those he pretended to do, and especially them who, by any Means, strive to promote their Country's Welfare. I could heartily wish I could say this, by some of our *English* Gentlemen. If I could, I should be more encouraged than I am in my Endeavours to send into the World several other useful and serviceable Books, besides these
twelve

twelve Monthly ones, that I have now almost completed, this being the Eleventh of that Number. I hear there has been an excellent Character of this excellent Person, Sir *John Dalrymple*, given in some of the public News-Papers; but, as I never read it, I cannot give an Account of the same.

C H A P. XVI.

The Copy of a Letter from a very learned Gentleman to the Author.

The Copy of a Letter to the Author from an unknown Hand.

S I R,

I N your Answer to *Agricola's* Letter, of the 10th of February 1742, you excuse yourself from explaining the Technical Terms for Want of Room, being confined to a limited Number of Sheets; I beg Leave to tell you, that, by omitting some Stories that are of no Manner of Use to any Gentleman or Farmer (as for Example one in *January*, Page 131.) you may have more than sufficient Room, without Addition of a Sheet, for the Explanation of many of these Terms may be contained in one Page; all Plants, whether Grasses or Weeds, should have the true Botanical Names given them, or it is impossible to find them out, as almost every Country gives a different Name: For Instance, your Lady-finger-grass was unknown in three or four Counties, I am certain, by that Name; and the Botanists consulted their Herbals in vain, till you were wrote to, for a Specimen of

it; and I likewise assure you, that they are as ignorant of most of the Weeds, you mentioned in *June*.

In the *Northern Parts of England*, your Ladyfinger-grass (or Birds-foot Trefoil, or small straight coddled Trefoil, which is the Botanical Name) does not perfect its Seed till some Time after Hay-Harvest; nay I have gathered a good Quantity myself this Year in *August* and *September*; so that by leaving some Plants of that standing, when you mow for Hay, the Seed may be gathered without Damage to that; by this Means, I have got enough to sow a large Bed, which, next Year, I hope great Increase from. There are two Sorts of it, the *Major* and the *Minor*, *Vid. Ray's Synopsis*, P. 334. and *Ger. Emac.* P. 1198; the *Major* in wet Ground, has, this Year, been found five Feet high, and the Seed not ripe till *Michaelmas*; and the *Minor*, in some gravelly Soils, not above 6 or 7 Inches— You tell us in your *January*, that the Flowers are like those of the Auricula Sort; you better described them before like the Flowers of the Furz, for it is undoubtedly of the papilionaceous Kind. If you excuse the pointing out your Faults, and endeavouring to set you Right, for the Benefit of my Countrymen, you may hear from me again; and if you will, in your next Month, give us the true Names of the Weeds, you will oblige several of your Readers, and, particularly,

Your humble Servant,

Philoherba.

October 27,

1743.

The

The Author's Answer to the same.

S I R,

IN Answer to your anonymous Letter, this is in the first Place to return you Thanks for your great Goodness in pointing out my Faults ; and the more for putting me in the Way to redress them. I frankly acknowledge you are absolutely in the Right of detecting me of my Omission in not explaining the Technical Terms of Art, belonging to the several Weeds and Grasses, I have wrote on ; but, to be plain, I am obliged to let you know, that I am not, nor never was Master of any Book capable of informing me so far as to give a Botanical Account of these Vegetables ; nor can I learn it by Conversation, for most of our Parishioners are downright *Dunstable* Farmers ; that is, those who know nothing of the Matter you write of : For my Part, I write in the main from the Field of Practice, and therefore I give the several Weeds and Grasses those Names they are called by, in our County and Parts adjacent, and have shewn the Way how to destroy them, beyond any Author that ever yet wrote ; indeed, I must own, I saw many of them in my Travels in other Places, but I then did not think it worth my While to minute their different Names ; if I had, perhaps, I might hardly have been the nearer the true Botanical Names of them : However, I have this to write in Answer to your Letter, that if I can conveniently come by *Ray's*, or any other Book, that may enable me to illustrate the Subject I have wrote on concerning Weeds, and particular Grasses, I will do it as soon as I can, and endeavour to give you, and others, what Satisfaction lies in my Power, for, without this Assistance, I cannot pretend to do it ; nor then neither, perhaps, as
I should

I should do. In the mean Time I intend to make a strict Retrospection into the Nature and Form of Growth, that attend these Vegetables, and be much nicer in doing the same, than I formerly was, that I may be the better able to answer your Desire. But all this cannot be done presently ; and as I have but one Month more to write to compleat my twelve Monthly Books, *viz.* that for *April* ; I must desire to be excused perfecting this Work, till I have an Opportunity of doing it in some other future Work ; and here add, Sir, that I should be very proud of your further learned Assistance in any other Matter relating to any of the Subjects I write on, for, by so doing and my publishing them, you will do me and the World a great Service, indeed ; for I am very sensible you are a Gentleman of extraordinary Parts, and capable of great Performances this Way. And you would be the more kind and generous in such Acts of Benevolence, since I stand in more Need than ordinary of such Friendship ; for, to tell you the Truth, as I have lost my good Friend and Correspondent Sir *John Dalrymple*, who was the only one I had, I am now destitute of all such Help ; and I do assure you, you shall have no Reason to reproach me, with letting the World know who you are, or where you live, if you are not willing to be publickly known. Therefore I should take it as a great Favour, if you will inform me, where I may direct a Letter to you : Who am,

Sir,

Your most obliged humble Servant,

*Little Gaddesden,
Nov. 4, 1743.*

W. Ellis.

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